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Leading Articles

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Dr. John B. Murphy

FIFTY years ago the tradition obtained that, if a man desired to perfect himself as a surgeon he must study in Europe. That condition no longer continues. Clinical surgery is better taught in the United States today than it is in any foreign country, and even thirty years ago two of the greatest surgical teachers the world has ever known, Nicholas Senn and John B. Murphy, were giving instruction to students in Chicago.

Michael and Anna (Grimes) Murphy were staunch Irish Roman Catholics, living in the little city of Appleton, Wisconsin, when their son, John Benjamin, was born on December 21, 1857, and the boy absorbed their religious teaching and continued to put it into practice all through his life. The spiritual head of his church recognized his achievements, shortly before his death, by making him a Knight-Commander of the Order of St. Gregory the Great.

Young John attended the public schools in his native town, and when that work was completed, in June, 1876, he came to Chicago the following autumn and matriculated in Rush Medical College, from which institution he received the degree, Doctor of Medicine, in 1879, after which he spent a year as an interne in Cook County Hospital, though such training was not required at that time.

Following his internship, he practiced in Chicago for two years, but, realizing his need of further instruction if he was to achieve his ideals, he went to Europe, in 1882, for postgraduate study.

In Vienna he came under the direction of Billroth, the great surgical genius of the nineteenth century, and of other noted teachers of that time, by whom he was inoculated with a passion for surgical teaching. His zeal was fanned, after his return home, by association with Christian Fenger, than whom there was never a greater master of surgical pathology.

Upon his return to the United States, in 1884, Dr. Murphy was appointed lecturer in surgery at Rush Medical College, Chicago, in which institution he was, later (1905 to 1908), professor of surgery. In 1892 he was made professor of clinical surgery in the College of Physicians and Surgeons, and in 1901, professor of surgery in Northwestern University Medical School, which position he held (except for the three years during which he taught at Rush) until the end. For many years he was also professor of surgery in the Graduate Medical School of Chicago. From 1895 until his

death he was chief of the surgical staff of Mercy Hospital.

But this was not enough to satisfy his boundless enthusiasm and untiring energy. He taught, not only by word of mouth, but with his pen as well; and he was closely and actively associated with medical organization. For years he was chief of the editorial staff of *Surgery, Gynecology and Obstetrics*. In 1911 he was president of the American Medical Association and, in 1914, of the Clinical Congress of Surgeons of North America. He was one of the founders and a regent of the American College of Surgeons. In addition to these undertakings, he was a member of the local and state Medical Societies and of several specialistic organizations, and contributed something to all of them.

Murphy's work was recognized by institutions of learning, both at home and abroad. He was a Master of Arts of St. Ignatius College; LL.D., of the University of Illinois and the Catholic University of America; D.Sc., of the University of Sheffield, England; and Fellow of the Royal College of Surgeons of England. In 1902 he was awarded the Laetare medal by Notre Dame University.

In 1885, Dr. Murphy married Jeannette C. Plamondon, of Chicago, who bore him a son and four daughters.

Here was a man of tremendous energy and enthusiasm and possessed of a creative, scientific imagination. He was never satisfied to do supremely well the things which other men had done, but constantly sought new and better methods—never by specious, empiric performances, but always upon the basis of laborious and patient experimentation, in the dead-house and in the laboratory for animal surgery. Always a sincere and tireless worker himself, he scorned hypocrisy, pretence, indolence and carelessness. The welfare of his patients was ever his first consideration.

Murphy's first efforts were in the field of abdominal surgery, and his first great contribution to his profession was the *Murphy button*, which revolutionized the technic of intestinal anastomosis and which, today, after a period of semi-eclipse, is once more coming into its own. He was among the first to investigate the cause of peritonitis following appendicitis, and to search for the underlying factors of a number of other obscure abdominal conditions.

Next he turned his attention to surgery of the lungs, and laid the foundation for much of our modern practice in this line; then to the principles and practice of neural surgery; after that to operations upon the bones and joints. He was among the first to perform a successful anastomosis of a large artery. Every field he entered was illuminated by his surgical erudition and intuition.

Dr. William J. Mayo says that a surgeon's reputation must rest upon: originality; teaching, by word of mouth and in print; and his surgical judgment and operative skill. On all these counts, Murphy stands among the highest. Few have made so many original and permanently valuable contributions to the profession as did he; he is generally recognized as one of the foremost surgical teachers and writers of all time; and as an operating surgeon, the brilliance and soundness of his technic were an inspiration to all who were privileged to see him at work.

In 1916, though recognizing that his health was not what it should be, he refused to cease his labors until actually forced to do so, and, partly because of his self-sacrificing but, perhaps (who knows?), ill-judged devotion to duty, he laid aside his physical body, while still in the prime of life(he was only 58 years old), as a result of aortitis and coronary sclerosis, on August 11, 1916.

"He went away as he had lived, nobly careless of himself and thinking only of the things he had undertaken to do."

Man Builders

THE young people of today are a keen, curious, enterprising crew, intent on discovering what it is all about and getting the juice out of life—a commendable endeavor! But a high-powered car (which our youngsters undoubtedly resemble, in many ways), without an adequate equipment of brakes, is a rather dangerous vehicle for a prolonged journey; and the brakes of life, which we call *discipline*, seem to have been neglected in outfitting the rising generation.

The United States Government has gone into the man-building business on a fairly large scale, through the operation of training camps for the development of reserve officers (R.O.T.C.) and for the younger male citizens in general (C.M.T.C.), and the opportunities offered are being enthusiastically used. Last year, 39,000 boys and young men attended these camps, but thousands were refused enrollment, because the funds provided for this inestimably important purpose were insufficient to pay the expenses of their training.

These camps give to young men a healthful vacation in the open air, filled with manly occupations of all sorts and at the Government's expense; the privilege of being prepared to serve their Country *effectively* should the need arise; and, more important, perhaps, than all else, a keen appreciation of the vital relation which discipline bears to success in any walk of life.

Two duties rest upon the members of the medical profession: To bring to bear all the influence they possess for increasing the appropriation for military training camps; and to urge their own sons and those of their neighbors to avail themselves of the benefits which the camps offer. In addition to these, the members of the Medical Reserve Corps have the duty of cooperating in the scheme, by making physical examinations of candidates and giving them the smallpox and typhoid vaccinations.

Speaking of Medical Reserve Officers, the time is near when the invitations to the summer camps will be received. Every ablebodied physician should hold a commission in the Corps, and every officer should make his plans for attending a camp, *at least* every other year.

Now is the time to start the various activities connected with the summer program of military training. Those who want a commission should write to The Surgeon General, U. S. Army, Washington, D. C., for particulars. Those who are willing to cooperate in the C.M.T.C. program can find out all about it by addressing The Recruiting Publicity Bureau, Governors Island, N. Y.

LET'S GO!

The true story of man is the story of the taming of the wild man inside every one of us.—Dr. Joseph Jastrow.

Easter

ABOUT this time of year the Christian world celebrates the church festival known as Easter, supposed to commemorate the physical resurrection of the Master Jesus. That the feast is not the actual anniversary of an historic event is, however, proved by the fact that it does not always fall upon the same day, but is reckoned, according to the edict of the Council of Nice (325 A. D.), as the first Sunday after the first full moon on or following the vernal equinox (March 21). Easter may be on any date between March 22 and April 25. It fell on the former date in 1761 and in 1818; and on the latter in 1843 and in 1886.

Those who believe that Easter is a strictly Christian festival are uninformed on the subject. Great feasts have been used to celebrate the vernal equinox—"the resurrection of the world from the death of winter"—from time immemorial, and many of the customs connected with the day (such, for instance, as the distribution of "Easter eggs") are, without doubt, of pagan and pre-Christian origin. Even the English name for the festival is probably

derived from Eastre—a Saxon goddess whose feast was celebrated in the early springtime.

The Jewish church also has one of its chief celebrations—the Feast of the Passover, or Paschall Feast—at this season, and the great candles now lighted on Holy Saturday, by all branches of the Catholic church, to burn until Ascension Day, are called paschal tapers. Moreover, the Spanish name for Easter—*Las Pascuas*—derives from the Jewish feast.

The idea of a feast after a period of fasting (Lent, in the Christian church) is also adopted by the Mahommetans, though their month of fasting, known as Ramadan, falls in the ninth month which, since their year is lunar instead of solar, comes around to the vernal equinox once in 33 years.

The Easter-egg is said to have originated in Persia, though the earliest significance of the custom is not known. In some times and places the egg has been regarded as a symbol of resurrection; and in old times, in England, the Easter-eggs were blessed by the priests and kept as amulets.

The charming custom of sending greetings to friends at Eastertide probably had its origin in the Easter kiss, which was popular some centuries ago. Following this conventional osculation, the kisser exclaimed "*Surrexit*" (He is risen); to which the kissee responded, "*Vere Surrexit*" (He is risen indeed).

It is not at all strange that the vernal season has been greeted with rejoicing, by all peoples and in all times. The reawakening of the world's life, after the stark and forbidding rigidity of winter, could scarcely fail to call forth exuberant thankfulness. Nor is it strange, when we remember that all of the world's great religions have originated north of the equator, that the return of life and activity should be attributed to the intercession of some god or goddess, and so tied up with the worship of the time.

When Christianity was in its infancy, it seemed expedient, in order to hold the interest of the early converts, to make the festivals of the Church correspond, as nearly as practicable, with those to which they were accustomed: So we have our Christmas at the winter solstice and our Easter (or Passover) at the vernal equinox.

When we celebrate this feast, it should make our satisfaction all the greater to remember that we are following the precedent set by our ancient forefathers in the misty ages of the past, and that we are rejoicing in company with all of the inhabitants of the northern hemisphere.

The religion that is afraid of science dishonors God and commits suicide.—Emerson.

The Doctor's Wife

IT IS rather generally realized that, in order to achieve true and solid success in the practice of medicine, a man must have certain inherent characteristics and a definite type of mental and emotional reaction patterns—that true physicians are born, not made, even though a good deal of shaping must be done on the rough stone before it is fit to be built into the temple of life.

Few, however, stop to think that, in order to be successful as a doctor's wife, a woman, too, must be born and trained to it, as definitely as is her husband, in addition to possessing, in rather unusual degree, the qualifications which make for the adequate practice of wifehood in general—and these latter attributes and attainments are, in themselves, no small matter.

The wife of a physician must, first of all, be free from personal jealousy. Her husband, in the routine of his day's work, necessarily comes into close and intimate association with many women, and unless his conjugal partner trusts him implicitly, distress and disaster are in the offing.

She must also be a woman of discretion, completely above the crime of gossip and able to keep her mouth resolutely shut under all possible circumstances, as regards the professional affairs of her husband. Of course, the wise doctor does

not discuss his patients with *anybody*—not even his wife—but bits of information are bound to leak out in the intimacy of family life, and these must never be passed on, no matter how great the temptation.

If the physician must have a passion for human service and a deep and catholic sympathy, so also must the companion of his bed and board. The wife of a busy practitioner finds life no bed of roses, and unless she, too, can bear with equanimity, the disappointments and inconveniences which fall to the doctor's lot, she will eat out her heart in vain repining or useless rebellion against her lot.

Comparatively few physicians have so large an income as to preclude the necessity for financial managing at home, and most of them are—or feel that they are, which amounts, in practice, to the same thing—too busy with their professional labors to devote much or any time to the practice of domestic economics. Their wives must, therefore, be especially competent home-makers and managers, so that the few hours of relaxation which fall to the doctor's lot may not be rendered an additional burden by the necessity for solving the problems of running the home and rearing the family.

These are a few of the indispensable qualifications of a doctor's wife. Some women, who have a true genius for the work, are able to act as business managers for their husbands, in addition to their other duties, and will find many little and big ways of helping which will render them indispensable partners in the complicated business of living. It is no small accomplishment to be a consummate diplomat, a sealed vault for confidence, a patient waiter and a cheerful relinquisher, a tireless and watchful helper and various other beautiful things.

And when a physician has secured the companionship of such a paragon as has been sketched—or of one who even approximates that high standard—he is, indeed, a short-sighted fool and unworthy of his blessings, if he does not earnestly study and diligently practice to make her life with him so full and rich and satisfying that she could not dream of desiring any other. It can be done, and it *must* be done; and he who leaves a diamond necklace lying about promiscuously, deserves no sympathy if it is stolen by some more appreciative person.

If a wife has no real interest in her husband's welfare and possessions, the world will ridicule her. —Winnebago Proverb.

Normal and Supernormal

ONE encounters, every now and then, in speech or in print, the word supernatural and it always gives one an eerie feeling of mystery or even dread.

This word is, or should be, as obsolete as the dodo, because it was a product of the times when men really believed that anything which happened outside of the limited range of their own experience or knowledge must, of necessity, be contrary to nature.

In this age, when the microscope has permitted us to study the infinitely small, and the telescope has opened for us the realm of the infinitely large; when new and revolutionary discoveries have startled us almost daily, so that we have become nearly insusceptible to further astonishment; and when, after the discovery of so many new laws, the wise are becoming convinced that the field for such investigations is practically limitless, we realize that the entire universe is subject to the operation of laws and that there are, and can be, no lawless occurrences whatsoever. When phenomena appear, whose causes are beyond the range of our *present* knowledge, we may speak of them as *supernormal;* but that there *can* be anything *supernatural* (above and beyond the laws of nature) is ridiculous.

Even in considering the socalled supernormal phenomena, we are faced with a number of difficulties. In the first place, what is normality? That, on mature consideration, appears to be an individual con-

dition. A state or power which may be entirely normal for one man, may be quite abnormal to another. We can safely say that a certain appearance or state of affairs is decidedly *unusual*, but a decision as to its *normality* requires a rather extensive knowledge of the peculiarities or behavior of the person or thing, under other and more customary circumstances.

A healthy man with a pulse rate of fifty or a temperature of ninety-seven degrees is decidedly uncommon; but there are persons in whom such findings are entirely normal. Most persons in a forest or desert, lose all sense of time and direction; but there are those who possess, normally, an *absolute* sense of time and of the location of the north.

The socalled psychic phenomena (clairvoyance, telekinesis and the like) inspire some persons with terror and move others to homeric laughter. Both attitudes are baseless and unwise. If nothing can happen outside of the laws of the universe, there is nothing to fear, so long as one keeps within the laws; and if something *actually takes place*, no amount of mirth will do away with the fact, and the intelligent man will be interested in finding out the laws under which the unusual occurrence transpired.

It is exceedingly important for all sound, scientific thinking, that one keep an open mind and hold fast to universality of law, which has now been demonstrated beyond any reasonable question. Tremendous changes have taken place in our world during the past century—even within the span of the past generation—and there is every reason to believe that we and our children will see equally cataclysmic rearrangements of modes of life and thought. Those who feel that we are at the apex of knowledge and civilization are due for some rude shocks; but the ones who can say, "That seems curious to me and it is hard to understand it but I will wait until someone discovers the law before I make a judgment upon it and close my mind," will be able to adjust themselves to new factors in their environment with a minimum of friction.

Who knows but, ten or twenty (or perhaps a thousand) years hence, "astral vision" may be as commonplace a part of our lives as the radio (a myth and chimera to our fathers) now is? Who can say (just because it has never happened before) that World Brotherhood may not be a fact in our childrens' time? Remember, twenty-six years ago people laughed over the story of "Darius Green and his Flying Machine"—and then the Wright brothers *flew*. The *possibility* had always been there, awaiting the man who would discover its *laws*.

If we will be more careful in our use of words—more discriminating when we talk of things as normal or supernormal or supernatural—we will be able to think much more clearly and straighter; and thinking is the power that will lift the human race to higher levels of achievement and make the dreadful and mysterious "supernatural" things of today, the practical and helpful commonplaces of tomorrow.

Redeemed

He who can turn his back on woes and sins
And all the senseless things for which men strive
Has reached the place where happiness begins
And, here on earth, has entered Heaven alive.

—G. B. L.

LEADING ARTICLES

Physical Therapy in Dermatology*

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THE use of the natural forces in the treatment of diseases—physical therapy—was utilized by the priests in the Aesculapian temples and is recorded on marble plaques, the votive offerings of grateful patients treated by hydrology, massage and sun exposure.[1]

Under the term physical therapy we include, in these days, in addition to the above measures, the various forms of radiotherapy, from radium, roentgen-rays, "grenz"-rays, ultraviolet and infrared rays; the different types of galvanotherapy, such as the simple galvanic current, electrolysis, ionic medication and the galvanocautery; the unipolar and bipolar methods of surgical diathermy; and refrigeration. These and still other agencies find application in modern practice, but only those will be discussed here that have proven their worth to the dermatologist in his treatment of the various diseases of the skin.

Radiotherapy

Roentgen-Rays

MacKee[2], in discussing the present status of cutaneous roentgen-ray therapy, gives a list of over eighty different dermatoses in which this physical agent has been found useful. It is the method of choice in such diseases as fungus infection of the scalp, localized pruritus, localized hyperdrosis, bromidrosis, and a few rare diseases of the skin. It is a boon for eczematous lesions, lichen planus, and acne vulgaris, which fail to respond to the usual dermatologic methods. It has its indications in psoriasis, seborrheic dermatitis and acne rosacea, but should be subordinated to other remedial measures. It should be given a trial in the coccogenic sycoses for, not uncommonly, satisfactory results are obtained. Carbunculosis and furunculosis respond favorably to the x-rays, if used early enough. It should *not* be recommended for the removal of superfluous hairs, on account of the disfiguring sequelae.

Lupus Vulgaris and other forms of skin tuberculosis, the tuberculids and lupus erythematosus are, in many instances, better treated with other forms of therapy. The sequelae that may result from repeated and large doses of x-rays, in the severer types of tuberculosis of the skin and adjacent tissue, are to be guarded against, in order not to offset any advantages obtained in their cure.

The other granulomas of the skin, like blastomycosis, sporotrichosis and actinomycosis respond to the x-rays, but may require other systemic measures for permanent cure. Rhinoscleroma may be permanently cured with the x-rays alone. Mycosis fungoides, Kaposi's sarcoma and the lymphoblastomas of the skin respond readily to the x-rays, but recur. Yet it is an exceedingly useful measure, for it prolongs the comfort of the patient.

Warts of various kinds may be treated by other means, but when located on the palms or soles respond nicely to the x-rays in many instances. This method is recommended to those too timid to submit to the removal of such lesions by surgical diathermy. Keloids, and acne-keloid yield in due time to x-ray treatment; but when a keloid is of several years' duration it is perhaps better to excise it and, at the first sign of return, to apply the x-rays.

*Read before the New Utrecht Medical Society, Brooklyn, N. Y., January 28, 1929.

Skin Cancers

The ordinary *basal-cell epitheliomas*, as well as those bearing different names but of similar pathologic structure, are slow in growth and rarely metastasize. They may ulcerate and, when located near the eye or on the nose, may cause destruction of the eye or cartilage. A basal-cell epithelioma should, therefore, be removed as early and as thoroughly as possible. In such cases, cures close to one hundred percent can be obtained with one or more roentgen-ray treatments, with a minimum of discomfort and an excellent cosmetic result.

Granting that excision, caustics, curettage and surgical diathermy are also capable of curing the average case of basal-cell epithelioma, the advantage still remains with irradiation, because nervous and debilitated patients are apt to suffer from pain and mental shock with operative procedures.

Statistics of relapses after the various methods of treatment in basal-cell epithelioma are difficult to judge, principally because pathologic reports are not always mentioned. McKee figures them about 13 percent after roentgen-ray therapy, taking into consideration the location, duration, size and depth of the lesion, as well as a definite lapse of time, in order to include late recurrences. These figures are practically the same as those given for relapses of basal-cell epithelioma following surgical excision. It is needless to state that, when roentgen-ray therapy has failed, other means must be employed to destroy the lesion. These will be discussed under their respective captions.

The epithelioma that develops on the visible mucous membranes is nearly always of the squamous or prickle-cell variety. Broders classifies this type of epithelioma according to the degree of cellular activity —the more marked the differentiation in a *squamous-cell epithelioma*, the lower the degree of malignancy. Such a lesion may also occur on the skin of the face, trunk and extremities, following chronic irritation of a preexisting skin lesion (precancerous dermatoses) or irritation from various organic products like coal-tar, aniline dyes, gasoline, tobacco, stove soot, etc.

This type of epithelioma is a dangerous affection on account of the regional lymph-node metastases that may ensue. The only favorable cases are the early ones, and they must be attacked with all the means at our command. Radical excision with surgical diathermy is preferred, combined with radium or roentgen-ray therapy, locally and to the regional lymphatics, even if not palpable. Block dissection of the lymph nodes, if already involved, followed by heavily-filtered radiation, to the point of skin tolerance, has been shown by clinical experience to be of added value. When the case has reached the inoperable stage, radiation by x-rays or radium is the only hope.

This type of epithelioma varies in its response to treatment, as, in spite of our best efforts, recurrences and metastases sometimes take place. This is probably due to the varying degrees of radio-resistance of cancer cells. The adult cancer cells, being generally more radio-resistant than those young and undifferentiated in type, require more than two or three times the amount of radiation to affect them.

Dermatologists in this country are, as a rule, partial to the unfiltered and fractional dosage in the roentgen-ray treatment of the ordinary superficial, inflammatory dermatoses. The majority of those amenable to the x-rays can be cured or improved with this method, always keeping in mind to use only such a quantity of radiation as will have no injurious effect on the skin.

There is little if any difference in results or sequelae when filtration is used, provided the quantity of radiation is the same. Keloids and lesions involving the cutis, as a rule, require filtration. Early cases of mycosis fungoides respond well enough to fractional, unfiltered doses, so do the skin lesions occurring in leukemia and Hodgkin's disease. The glandular enlargements require heavier doses through filtration. Kaposi's sarcoma, really a granuloma, usually responds to subintensive doses, unfiltered. Some form of arsenic therapy is required in addition. The ordinary basal-cell epithelioma will respond to an unfiltered erythema dose of x-rays. It may be necessary to repeat this once or twice with a slightly larger dose, at proper intervals. Filtration is recommended in the severer infiltrating types of basal-cell epithelioma and after excision of a prickle-cell type. Heavy doses through filtration, to the point of skin tolerance, are required for the lymph-gland metastases, metastatic cutaneous cancers, malignant skin lesions of xeroderma pigmentosum, sarcoma, melanocarcinoma and Paget's disease of the nipple.

Practical skin therapy with the x-rays,

has been developed by dermatologists, such as Sabouraud, Pusey, MacKee and others. If judiciously applied, it is an extremely useful agent in dermatologic practice, but no dermatologist can be considered, *ipso facto*, competent to use this agency, unless he has an adequate knowledge of the means he is using—its limitations as well as its advantages. On the other hand, no person, be he ever so conversant with radiology, is capable of treating a skin disease intelligently, unless he possesses more than a passing acquaintance with cutaneous medicine.

Radium Therapy

Radium therapy consists in the use of radium element and **radon** (radium emanation). Mesothorium, a decay product of thorium, is also used abroad as a substitute for radium, as it is less expensive. The radium salt used for the emanation is the chloride or bromide, the emanation being collected in fine, capillary glass or gold tubes (implants). The radium salt used in permanent radium appliances, such as tubes, flat applicators and special metallic needles, is usually the sulphate, but the strength is given in milligrams of radium element.

For practical purposes, a millicurie of radon has the same initial gamma ray activity as a milligram of radium element, but the former loses about 15 per cent of its activity per day. The dose is estimated on the skin erythema or tissue reaction produced in a definite area and the amount used is recorded as so many milligram or millicurie-hours. The dose, with unscreened and filtered radiation, is dependent, not only on the number of milligrams of radium element or millicuries of radon, but also on many other factors, especially the focal distance and whether beta or gamma radiation is to be utilized.

Flat, glazed and bakelite radium applicators, in common use by dermatologists, are standardized in each case, on the amount of element per square centimeter of surface, as full-strength, double or half-strength. Five milligrams of radium element per square centimeter of surface is a full-strength applicator. One millicurie emanation seed gives a total radiation equivalent to about 132 mc. hours and destroys about one cubic centimeter of tissue.

It is not necessary to repeat the principles involved in the treatment of epithelioma with radium, as they are practically the same as those cited for the treatment of these neoplasms with roentgen-ray therapy. If an ordinary basal-cell epithelioma is not easily accessible to the x-rays, as on the margin of the eyelid, then, as a matter of convenience, radium should be applied.

Relapses in basal-cell epithelioma, following the use of x-rays or after any other method, may respond to radium therapy. When this type of neoplasm has invaded the bone or cartilage, radium is of questionable value and surgical methods (diathermy) must be resorted to. The only type of radiation available for malignant disease in the mouth is radium. As we are dealing with a dangerous neoplasm in most instances, it is considered necessary, not only to treat the lesion locally with radium, but, after a short interval, to excise the irradiated area by means of diathermy, not neglecting irradiation of the lymphatics that drain the affected part. X-ray cancers, arsenical cancers, malignant skin lesions in xeroderma pigmentosum, melanocarcinoma, sarcoma and cutaneous metastatic epithelioma, are usually serious affairs and radium may be resorted to in order to accomplish a cure.

The treatment of election in **cavernous angioma** is radium, because it is painless and gives the best cosmetic results. The number of treatments and the type of radiation vary with the size and depth of the lesion. Beta radiation is used at first; gamma radiation if there is no progress or if the lesion is quite deep. MacKee[3], Eller[4], Robinson[5] and others all report excellent results. The lesions are best treated during infancy, unless there are signs of spontaneous involution. The dose should be accurately estimated and a reaction should be avoided. Treatments may be repeated every four to six weeks, until the desired effect is obtained. The action of radium in these lesions is due to the radiosensitiveness of the endothelial cells lining the bloodvessels that constitute the angioma.

Raised angiomas, when associated with lesions also of the cavernous type, are best treated with radium. The angioma elevated above the skin (strawberry mark) but situated on the eyelids, mucous membranes, or on soft tissues like the labia of the vulva, are also better treated with this type of radiation. Smaller lesions on the covered parts of the body, although they can be excised or ligated, are more easily managed

with radium or refrigeration. Care is to be used when treating such lesions with radium, not to injure the underlying bony or cartilaginous tissues. For these reasons and the fact that telangiectasis and skin atrophy may develop, even in the hands of those expert in the use of this element, the selection of this agent is a question of judgment in each individual case.

The flat capillary nevi (portwine stains), the spider nevi, pigmentary and hairy nevi, the verrucous nevi and the lymphangiomas, are best treated with other agencies.

While the use of radium is impracticable in dermatoses that are more or less disseminated, it is of value when applied in fractional doses to a chronic indurated patch of psoriasis or lichen planus, resistant to other methods of treatment. This applies particularly to leucoplakia and lichen planus lesions in the mouth. It may also be used instead of x-rays, for ungual, periungual, palmar and plantar warts, keloids and the various granulomas, lymphogranulomas, and cutaneous malignant tumors enumerated under the caption of roentgen-ray therapy. The dose practically corresponds to that given with the x-rays. Rhinoscleroma may be cured either with x-rays or by radium alone.

"Grenz"-Ray Therapy

Bucky[6] in 1925, published his observations on the use of a specially constructed, hot-cathode vacuum tube, employing a maximum voltage of 10 kilovolts and 10 milliamperes. According to this investigator, the rays emitted average about 2 Angstrom units, and belong between the longest x-ray wave lengths and the shortest ultraviolet rays of the spectrum. The reaction produced by these rays is said to be more like that from the ultraviolet rays, in that it causes no epilation and leaves no telangiectasis or atrophy. Voltages higher than 10 kilovolts are followed by the usual x-ray sequelae. They were abandoned by investigators using very long wave lengths, previous to Bucky.

Some doubt has been expressed about setting the "grenz"-rays aside as a new type of radiation. Eller[7] was able to show that part of the beam of the rays produced with a voltage of 8 kv. can easily penetrate into the cutis. If it is remembered that atrophy or telangiectasis can occur ten or more years after the application of x-rays, it will be seen that such sequelae cannot be absolutely excluded following the "grenz"-rays, until a similar period of time has elapsed. Eller has a patient now under observation, showing areas of atrophy and telangiectasis, proven microscopically, following a triple erythema dose of the "grenz"-rays, administered one year ago. It must be said in fairness, however, that such sequelae after the use of these rays are an exceedingly rare occurrence.

The length of time since this method of treatment has been applied to various dermatoses has been too short to establish its limitations and advantages. Favorable action is reported in dermatophytosis, seborrheic dermatitis, perlèche, Duhring's disease, hypertrophic lichen planus, neurodermatitis, sycosis vulgaris, keratoses and basal-cell epithelioma. The results in other dermatoses are either less favorable or none at all. Many have installed this equipment, in order to determine the true value of the long-wave-length roentgen therapy, not only in skin diseases but also, as Bucky believes, in some of the systemic affections.

Ultraviolet Radiation (Actinotherapy)

The literature is quite voluminous on this form of radiation therapy, obtained either from natural sunlight (heliotherapy) or from lamps—mercury-quartz, carbon-arc, etc.—now found as part of the equipment of many physicians and others. I shall have to limit myself to the mere indications for this form of therapy in dermatology and omit all other details, for to do otherwise would extend the limits of this article beyond all reasonable bounds.

The rays utilized are those varying in length between 600 and 3,800 Angstrom units. In general, the method of application consists in the production of erythema or tanning of the skin by general body radiation, alone or combined with the local scorching effects of some forms of concentrated ultraviolet rays. Tuberculosis of the skin and glands, lupus vulgaris, erythema induratum, scrofuloderma and the tuberculids may thus be treated. The results are not always satisfactory and other means must frequently be resorted to. Chronic, fixed patches of lupus erythematosus are treated with the ultraviolet rays, which may be resorted to in case the gold compounds now recommended prove ineffectual, but care must be exercised when using these rays not to expose the healthy skin, as extension to these parts may occur.

Local scorching applications of ultraviolet rays are frequently useful in alopecia, areata and totalis, but are only of adjunct value to the hygienic and medicinal treatment of other types of alopecia. Acne vulgaris, rosacea and seborrheic dermatitis are only temporarily benefited. It may relieve the itching in pruritus and pruriginous dermatoses, like Duhring's disease or neurodermatitis. Some advise strong radiation in psoriasis. Goeckerman prefers tanning effects only, in conjunction with crude coal-tar ointment. Pityriasis rosea, when not responding to the usual methods, will often clear up nicely after mild exposures of ultraviolet rays. Chronic eczematous patches, indolent ulcers, and occasionally a case of portwine mark may be cleared up, if treatment is persisted in long enough. X-ray ulceration may be improved by actinotherapy. Repeated blistering is necessary for portwine mark and x-ray telangiectasis, but failures are commonly reported.

Definite proof is still lacking that the use of the ultraviolet rays possesses the power to prevent or lessen the development of x-ray sequelae; in fact, there is considerable evidence adduced that it enhances the effect of the rays. Some skins are extremely irritated by ultraviolet radiation. Others respond with marked tanning. In one case reported, the pigmentation remained quite persistent. Findlay[8] reports the development of malignant epithelioma in mice exposed to the ultraviolet rays for a period of eight months. Three mice that had simultaneous appplications of tar, developed these lesions in one month. Some discrimination and caution should be exercised, therefore, in the use of this agency in man.

Infrared Radiation

Ahlswede[9] quotes Meyer, Bering and others, who have proved that these rays at the red end of the spectrum, both visible and invisible, are the bearers of heat only, being otherwise chemically and biologically inactive. The wave lengths of these rays vary from 7500 to 300,000 Angstrom units. Finsen instituted the red light therapy and showed the antagonistic action between the red and ultraviolet rays, the former nullifying the tendency to pustulation in a variola vesicle when exposed to the ultraviolet rays. This form of treatment is therefore recommended for a skin irritated or pigmented by the quartz lamp or sunburn; also for erysipelas, for pustular eruptions, and for drying up an acute, weeping eczema. I have also found it valuable in preventing pustulation and allaying the neuralgic pains of herpes zoster.

I believe that the ordinary electric heater, carrying a fair sized spool and reflector, that emits a good glow of heat, is capable of furnishing all the infrared rays that are necessary for dermatologic work. A neon-gas-charged tube may also be used. A more efficient but costlier apparatus for general medical purposes has been accepted by the Council on Physical Therapy of the American Medical Association and described in the *Jour. A. M. A.*, January 5, 1929.

Surgical Diathermy (Endothermy)

Surgical diathermy is distinguished by the destructive action of heat and, in accordance with the type and power of the current and the method of application, a variety of tissue effects are manifested. Electrodesiccation causes dehydration of the tissues and is developed from an Oudin current of relatively low milliamperage (50 to 300 M.A. and high voltage (10,000 to 35,000 volts); electrocoagulation causes a coagulation of the tissues and is developed from the d'Arsonval current, utilizing a high milliamperage (1,500 to 6,000 M.A.) and a relatively low voltage (1,500 volts). This latter is a bipolar current and is one made use of in medical diathermy, employing flat electrodes. Over one million oscillations of unsustained current are developed, in the modern diathermy machine, when either the single or bipolar methods are used, and mild desiccating and coagulating effects may be produced by either, depending on the intensity of the current.

Electrodesiccation and electrocoagulation were introduced by W. L. Clark, of Philadelphia, in connection with the treatment of neoplasms and other lesions and presented a considerable advance over the crude fulgurating current that Pozzi first used in 1907. Fulguration produced some desiccation and a little coagulation, but was limited in its usefulness, owing to its superficial charring action.

A still further advance in electrothermic methods was introduced by George A. Wyeth of New York, when he developed his cutting current from a sustained current of the same number of oscillations but of lower voltage and amperage. This is also a bipolar method, the active electrode holding a fine wire loop or an ordinary needle.

This cuts through tissue, sealing the capillaries and lymphatics, with comparatively little bleeding.

Desiccation is useful in brown nevi, adenoma sebaceum, fibroma, telangiectasia, xanthelasma, leukoplakia, keratoses, the different varieties of warts, molluscum contagiosum and chancroids. It is advocated by some for the removal of superfluous hairs, instead of electrolysis.

Coagulation is preferred in granuloma pyogenicum, anatomic tubercle, lupus vulgaris, rhinophyma and ulcerations of radiodermatitis. Its main use is to block off a large area of tissue about to be removed, as in cancer, preliminary to desiccation or excision by the cutting current. The advantage of this method over scalpel surgery is mainly due to the fact that it seals off the capillaries and lymphatics and prevents the possible dissemination of any cancer cells. As the destruction of tissue goes beyond the area treated, any neighboring malignant cells are probably also destroyed.

In the treatment of benign growths, some practice is necessary with desiccation in order not to destroy too much healthy tissue and thus cause a bad scar. This also applies to coagulation and the use of the cutting current. Malignant lesions that have failed to respond to other methods, especially radium or x-rays, are to be removed as thoroughly as possible, irrespective of the resulting scar. In cancer of the mouth or other visible mucous membranes, surgical diathermy, in most instances, is not sufficient alone and should be combined with either radium or x-rays, as outlined previously.

Galvanotherapy

Simple Galvanic Therapy:

The direct, unmedicated application of the galvanic current, with flat electrodes, to various skin lesions, is but rarely employed. Chipman[10] considers it to be of value in scleroderma. The positive pole is applied to the lesion and the negative over the corresponding spinal segment. It is also reported to be of use for the relief of symptoms in Raynaud's disease and for the restoration of pigment in vitiligo.

Electrolysis:

The electrolytic action of the direct current is utilized in the destruction of superfluous hairs, nevi and telangiectasis. For hypertrichosis it is a harmless method, removing the hairs permanently with very little scarring. The method requires a little practice in order to become adept. The negative electrode, carrying a fine platinum or steel needle, should be used for destroying the hairs; the positive pole only to complete the circuit. The amount of current necessary varies from one-half to two milliamperes. Very fine electrodesiccating or coagulating currents, when applied for a fraction of a second, may also be used for destroying hairs, but the advantage over electrolysis is questionable. The roentgen rays should not be used for this purpose, on account of the sequelae.

The hairy mole, usually also pigmented, may disappear when the hairs are destroyed by electrolysis. Any pigmentation that remains, may be treated with refrigeration or electrodesiccation. Spider nevi and telangiectasis of other sorts also respond nicely to electrolysis. Warts and non-pigmentary moles may be removed by transfixing them with a fine but strong needle attached to the negative pole, using two or more milliamperes of current. The deeply-pigmented, non-hairy nevi are extremely dangerous lesions with which to temporize, as they are invariably fatal once they recur. If there exists any indication to remove them, wide excision with the cutting current is the safest method to pursue.

Ionic Medication:

This consists of the introduction into the tissues, by means of the galvanic current, of various chemical salts soluble in water and good conductors of electricity—electrolytes. The positively and negatively charged ions thus formed move towards the oppositely charged poles of the circuit. *Cataphoresis* is the movement of fluid from the positive to the negative pole, when a current passes through an electrolyte.

In applying this method it is necessary to remember that the active electrode should be the positive pole, when the salts of copper, magnesium, mercury, silver, thallium, zinc and other metals, are to be used, and also for quinine, cocaine, adrenalin, etc. The active electrode should be the negative pole for iodine applications, salicylic acid, etc.

From 2 to 10 millamperes of current are indicated, depending on how much the patient will tolerate and the effects desired. One-percent zinc sulphate solution is used for alopecia areata, corns and callosities. Five-percent magnesium sulphate solution

or zinc needles are used for warts. Oliver[11] has obtained some good results in pruritus ani, using a 1 percent solution of iodine or zinc sulphate, and also mercury oxycyanide of the same strength.

There are still other dermatoses where this method of treatment is advocated, but owing to the fact that this procedure is very little used in this country, it is obviously difficult to judge of its comparative value with other methods of practice.

Ionizaztion of the skin with a solution of novocaine (procaine) produces sufficient local anesthesia for applying superficial skin cauterization.

Galvanocautery:

James F. Percy, of Los Angeles, and others who have recently made extensive trial of the electrocautery, consider this agency as extremely valuable in cancer of the skin, breast and other structures. Leaving the skin neoplasms aside, as they have already been discussed, the electrocautery, as used in dermatology, is now practically limited to a few skin lesions.

A small, bevelled platinum blade or fine platinum wire loop (microcautery) is used, at white or dull red heat, for cutting or searing effects. There is no simpler or more efficient way of removing a lesion that hangs by a pedicle, as a fibroma or papilloma of the skin, than with the galvanocautery. The microcautery, also known as Unna's *microbrenner*, may be used to treat individual nodules of lupus vulgaris, hypertrophic rosacea and various localized forms of superficial pigmentation of the skin. Electrodesiccation is now employed for many purposes formerly in the field of the electrocautery.

Refrigeration

The freezing of skin lesions by liquid air was first suggested by A. Campbell White, in 1899, and the method later perfected by Charles T. Dade, in 1905. Owing to difficulties of production and handling, this agent never gained much prestige, especially after W. A. Pusey showed that a very desirable freezing agent could be easily obtained from the carbon dioxide soda-fountain cylinder.

The liquid carbon dioxide is allowed to evaporate into a chamois bag and then molded to any desired form. The Gooseman apparatus was an improvement in the collection and handling of the gas, but it remained for Lortat Jacob, of France, to show how much more effective an acetone-carbon-dioxide mixture could be when used in variously shaped copper molds, provided with a spring gage to control the effects of treatment (cryocautery).

A solid carbon dioxide crayon, or the cryocautery, when applied to the skin, produces a thrombosis of the cutaneous vessels, injury to the cellular tissues and an inflammatory reaction, dependent on the degree of pressure and the number of seconds that it is applied.

This is the method employed for the treatment of angiomas. The cavernous angioma, however, responds much better to radium, and it is only in the raised angiomas, and also in the portwine mark, that freezing therapy finds its best field of usefulness. Radium, because it is painless, is being used more and more, even for raised angiomas, especially when they are situated on the mucous membranes or over other soft parts.

The results with refrigeration therapy in portwine marks of small dimensions seem to be more gratifying than when they are treated with pressure, by means of the water-cooled quartz lamp.

The flat, brown nevus is best treated by freezing; but if it is also of the hairy type, the hairs must first be destroyed by electrolysis.

Chronic patches of lupus erythematosus, resistant to gold therapy, may be treated, as they formerly were, by refrigeration. Granuloma annulare and creeping eruption also respond nicely to this method.

Roentgen-ray and radium therapy, and surgical diathermy have supplanted freezing in the treatment of basocellular epithelioma, on account of the superior results.

Summary and Conclusions

Physical therapeutic measures have established themselves as extremely useful agents for the relief and cure of skin diseases. The agencies employed are the various forms of radiotherapy, such as radium, roentgen-ray, "grenz"-ray, ultraviolet and infrared therapy; the different types of galvanotherapy, such as the simple galvanic current, electrolysis, ionic medication and the galvanocautery; the single and bipolar methods of surgical diathermy; and refrigeration.

Adequate technical knowledge of each agency, its limitations and advantages, and a thorough understanding of the nature of the skin lesion being treated, are essential

for the intelligent treatment of dermatoses by these means.

Progress in physical therapy is due to the mechanical era in which we are living. It does not entirely supplant the medicinal measures still in use in dermatology, but it is an important addition to our armamentarium in combatting the various affections that the skin is heir to.

Medical and physical means are not the final aim of therapy if they only relieve the local symptoms. The ultimate goal of skin therapy is to correct or eliminate the various instigators of cutaneous eruptions, thus not only curing the skin lesion but the patient as well. Much progress is being made in this direction, but where such remedial systemic measures are lacking, we must employ those local agents that have proven to be most efficient. Physical therapy fulfills this need in many instances.

BIBLIOGRAPHY

1.—Spriggs, S.: Medical Journalism and Scientific Progress. *J.A.M.A.* 91:1990, Dec. 22, 1928.

2.—MacKee, G. M., and Morse, J.: Present Status of Cutaneous Roentgen-Ray Therapy. Trans. Section on Radiology of the A.M.A., May 18, 1927.

3.—MacKee, G. M.: "X-Rays and Radium in the Treatment of Diseases of the Skin", p. 636. Second Edition. Lea & Febiger, Philadelphia, 1927.

4.—Eller, J. J.: X-Rays, Radium, Endothermy and Other Physical Agents in Dermatology. *Med. Jour. and Rec.* 125:540, April 20 and May 4, 1927.

5.—Robinson, G. A.: Radium Treatment of Angiomas. *N. J. State J. Med.* 27:1023, Sept. 15, 1927.

6.—Bucky, G.: Reine Oberflächentherapie mit überweichen Roentgen-strahlen. *Muench. med. Wchnschr.* 72:802, May 15, 1925.

7.—Eller, J. J., and Anderson, N. P.: Will Supersoft Roentgen Rays Replace the Roentgen Rays Ordinarily Used in the Treatment of Skin Diseases? *Arch. Physical Therap.* 8:612, Dec., 1927.

8.—Findlay, G. M.: Ultraviolet Ray and Skin Cancer. *Lancet* 2:1070, Nov. 24, 1928.

9.—Ahlswede, H. E.: Red-Light Treatment. *Arch. Dermat. and Syph.* 8 527, Oct., 1923.

10.—Chipman, E. D.: Electricity in Dermatology. *J.A.M.A.* 83:971, Sept. 7, 1924.

11.—Oliver, E. L.: The Treatment of Pruritus Ani by Electric Ionization. *Arch. Dermat. and Syph.* 14:560, Nov., 1926.

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The Medical Business

(A Survey)

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WHEN one reads history one is almost sickened to discover the squalor, deprivation, dictatorial exploitation and succession of calamities that have been the lot of the masses. Their problem was merely to exist, and they had to tolerate the other hardships.

Today we have entered upon an era in which nature and machinery serve us and the problem of meeting bare animal needs does not press so hard. The individual now expects food, shelter, security, and the right to self-expression. The common man has never lived upon this plane before. Our own grandparents tolerated deprivation and endured hardships because these were the lot of all their neighbors. Today our neighbors are privileged to avoid most of these worrisome and trying burdens.

The intellectual group has been the last to appreciate the changed conditions. Even today, scientists, philosophers, theologians and physicians are but beginning to awaken and ask that they be granted a fair share of comfort and security. This article will endeavor to show that physicians, as a group, have an opportunity and a responsibility to deliver health service that is comparable with the modern type of service rendered by those men responsible for other fields of activity.

Humanity wants food, shelter, transportation, fuel, government, pleasure, relaxation, encouragement, health, burial and reproduction. These are the necessities of life. Humanity has struggled and is still struggling to secure these necessities. There have been sad experiments in many directions, but in some of these fields we seem to be reaching a near-satisfactory solution.

Medicine is being treated just as have all these other necessities. Physicians have no unique problem of being imposed upon or singled out for peculiar treatment. "State Medicine" is sometimes discussed as though the fact that the State is interested is unique and a manifestation of attack upon our professional group. "State railways", "State mines", "State steamships", "State roads", "State factories", "State commissaries": at some time, some place, the community has condemned every group controlling an industry and sought to secure the service it needed by means of State control.

State Medicine and Health Service

State medicine is a challenge to our capabilities to render adequate health service. It should cause some chagrin and arouse a determination not to deserve the imputation. The threat of state medicine is ample evidence that our market already awaits us.

State medicine would prove just as unsatisfactory as other state controlled industries. We must conclude that the citizen is convinced that medicine is unsatisfactory and he must believe that state control offers an improvement over present conditions. The citizen seeks to make state medicine modify present conditions, as they pertain to the economics of medicine. Physicians must choose whether they will right their own house or have it righted for them.

Health service includes community health and individual health. Neither can be had unless some men devote their time and energy to the work. When men give their time and energy in the service of other men they are entitled to pay. No citizen seriously believes that health service can be had free of cost. He knows that he must pay someone. He has the choice of paying politicians, employers or physicians. Physicians must demonstrate their ability to dominate the field of health service and give the citizen reason to have more confidence in them than in politicians or lay managers.

Health service is a market that already exists. Physicians have no necessity to create a market or a demand. In many ways the profession is not supplying its market any more adequately than a day-coach service between two great cities would supply modern transportation demands. A day-coach service would not pay; in a similar manner medicine is not paying. A day-coach service would indicate incompetent management.

In the United States there are about eight hundred persons to each physician. Sometimes it is said that present economic problems depend upon the fact that there are too many practitioners. At the same time society is supporting an increasing number of sanitary officers, doctors of public health, visiting nurses, etcetera. If the field of health service is overcrowded why not curtail these partly trained persons first? If they possess knowledge that fits them to work in health service and that is not available to medical students, that is a matter for the attention of the medical colleges.

The following, while applicable to a specific community, serves to bring this article to a practical application. The points made will suggest that any community is a fit place for a similar survey.

The Market For Medical Services In Chicago

Chicago has a population of approximately three million. Approximately six thousand physicians are located here. The ratio then is approximately one physician to each five hundred citizens. Apparently, then, the profession is much more crowded here than in the average community. In spite of this I desire to utilize this community as an illustration of the possibilities of the medical business.

All are now acquainted with the efficiency of business men in making surveys as to the possible business of a certain community. Here is a survey of the possible medical business of Chicago. Similar surveys have been made of other communities and they correspond very closely in their conclusions with the one here cited. The reader is referred to the accompanying table which, though not absolutely accurate, is based upon the official figures of actual deaths and reportable diseases that occurred in Chicago during 1927.

This schedule shows the volume of business this community needs from the six thousand practitioners. Needless to say, the citizens did not get the indicated service and the practitioners did not get the business.

Admitting that 10 percent of the population are paupers (though they are not so regarded when buying clothes, food or shelter) and that some adhere to cults and do not employ physicians, thus reducing the total another 10 percent, it is evident that a very satisfactory volume of business remains.

Society determines how much shelter, food, clothing, etc., shall be given as charity, and society pays the producers for it. There is no ground to expect physicians to donate a major part of what they have to sell, that is not equally applicable to food producers, landlords and others. One must conclude that a serious lack of business acumen exists when physicians fail to grasp this opportunity. The public can not be blamed if it sets up agencies in an effort to secure adequate service.

Health service cannot but cost money.

Food costs money; water costs money; shelter costs money; police protection costs money. Our profession has been altogether too apologetic and has undertaken to set all sound business rules aside; as a consequence the health service which society secures is inadequate.

Recently the City Health Commissioner informed those in charge of the Public Schools that 85 percent of Chicago's school children have physical defects, and nearly 72 percent of the entire school population is in need of medical or dental treatment. No wonder the citizen is not satisfied. There is no ground for the complacent, idealistic, inefficient attitude of the older type of practitioners. Our profession must deliver service or be condemned, and if we deliver service, the citizen will be willing to pay, because he knows he gets good water, good milk, good transportation, etcetera only when he pays the cost.

We find doctors are frequently limited in their ability to discuss money, especially if it amounts to a thousand or two dollars, and a dazed look crosses their faces when it is suggested that they are partners in a "big business". The sum seems so unusually large that they fail to grasp it. We therefore have taken occasion to make a comparison. Doctors must be made to realize that other men think in hundreds of thousands and even millions of dollars. Remember, statistics show that Chicago needs about sixty-five million dollars' worth of physicians' services each year.

Chicago's citizens pay $60,892,995.10 a year to ride in the surface cars; $67,190,937.12 to talk on the telephone; $35,107,497.95 for gas. The Commonwealth Edison Company sells $78,971,500.00 worth of electricity a year, which does not include the street lights and other current the city secures from its plants along the drainage canal. Chicago pays, for the eight leading newspapers, $29,386,582.13.

One of the newspapers solicits hard-headed business men to advertise in its pages because it estimates that 67 percent of the families have incomes of about $2,900.00 a year, and these families are purchasers of the following volume of merchandise: 875,944 men buy clothing and other articles for their own use, to the value of $58,863,436.80; 845,385 women buy goods for their own use, to the value of $96,483,790.05; and 477,484 families buy household furniture and goods, to the value of $34,216,503.44. This newspaper then claims it reaches buyers for merchandise valued at $189,563,730.29.

In the light of these figures applicable to other businesses in the same community, our estimate of the volume of health service needed seems very reasonable.

Physicians must be brought to realize that each one is a partner in a tremendous business. That apologetic attitude which harps upon the string, that it is too bad that health must be paid for, must disappear. Those laymen who resent the fact that physicians seek to support themselves by treating the sick and injured must be shown their own false attitude. Miners support themselves because men need fuel. Landlords support themselves because men need shelter. Whole armies of workers support themselves because their fellow men must have food or starve. Physicians work for their fellow men and their fellow men are reasonable enough to expect to pay them. As a rule it is the physician himself who does the most damage to medical economics.

Necessity For Organization

In the survey given it is shown that medicine is a good-sized business. Any other business of like proportions would organize upon a basis that would secure efficiency. Railroads, factories, fruit growers, florists and other groups of business men employ boards of directors, publicity departments, investigation boards, etc., to promote, protect and operate in the interests of the businesses concerned. It is interesting to give some thought to the possibilities for such organizations in the medical business. The point I wish to make is the necessity for the business-like organization of medicine.

At times a small business man will act upon the idea that competition is the great hindrance to his prosperity. No single bank could educate the public to the universal use of banking service. No single railroad could bring about a universal belief in vacation trips. No single automobile manufacturer could have popularized the automobile. The ten-cent-store, the mail-order house and other businesses succeed in reaching their greatest development only by so acting together as to popularize their policies. No single surgeon, no isolated practitioner, no lone hospital can rise very far above a general average. Those who are ambitious to attain great heights should strive to be "Bankers' bankers", "Doctors'

Survey of the Need of the Chicago Vicinity For Physicians' Services During 1927, Based Upon Official Statistics, Published in "Chicago Health," Vol. XXII, Nos. 4 and 5

Diseases	Deaths	Reported Cases	Estimated Services Needed	Amount
Typhoid fever	23	156	Prevention (see note 1)	$6,750.000
Small pox	1	104	Prevention (see note 2)	3,000,000
Measles	123	24,000	4 visits $12 per case	268,000
Scarlet fever	75	7,000	4 visits $12 per case	84,000
Whooping cough	85	5,200	4 visits $12 per case	62,400
Diphtheria	438	5,200	Prevention (see note 3)	555,048
Influenza	243	3,000	4 visits $12 per case	36,000
Rabies	6	.....	Cannot estimate number dog bites	.....
Dysentery, under 2 yrs.	1	.....	See diarrheas, below	.....
Dysentery, over 2 yrs.	5	.....	See diarrheas, below	.....
Tetanus	30	.....	Cannot estimate accidents	.....
Pellagra	16	.....	Estimate 300 cases not in asylum @ $50 per case	15,000
Tuberculosis of lungs	2187	.....	.....	.....
Tuberculosis, other forms	380	7,800	x 4 or 30,200 cases @ $100	3,020,000
Cancer	3400	.....	x 3 or 10,200 cases @ $100	1,020,000
Diabetes	705	.....	x 10 or 7,050 cases @ $60	432,000
Meningitis, simple	57	.....	x 4 or 228 cases @ $30	6,840
Cerebrospinal fever	92	.....	x 4 or 368 cases @ $30	11,040
Acute ant. poliomyelitis	29	.....	x 3 or 87 cases @ $30	2,510
Cerebral hemorrhage	1431	.....	2 visits at last illness	8,386
Convulsions, infants	7	.....	x 25 175 cases @ $9	1,575
Heart disease, organic	6400	.....	x 5 or 32,000 cases @ $50 per yr.	1,600,000
Bronchitis, acute	191	.....	x 20 or 3,820 cases @ $9	34,380
Bronchitis, chronic	52	.....	x 20 or 1,040 cases @ $25 per yr.	26,000
Pneumonia, all forms	2868	9,110	@ $30 per case	273,300
Diarrhea & enteritis, under 2	538	.....	x 15 or 8,070 cases @ $12	96,840
Diarrhea & enteritis, over 2	89	.....	x 25 or 2,225 cases @ $6	13,350
Appendicitis & typhlitis	625	.....	x 6 or 3,768 cases @ $150	565,200
Cirrhosis of liver	333	.....	x 6 or 1,998 cases @ $25 per yr.	49,950
Nephritis, acute	73	.....	x 10 or 730 cases @ $30	21,900
Nephritis, chronic	3827	.....	x 5 or 19,135 cases @ $50 per yr.	956,750
Puerperal septicemia	109	.....	x 5 or 545 cases @ $60	32,700
Congenital debility & deform.	2054	.....	Average 2 visits per case	12,324
Suicide	491	.....	1 visit per case @ $5	2,455
Accidental violence	2358	.....	Average service per case $25	58,950
Homicide	439	.....	Average service 1 visit @ 5	2,195
Sunstroke & heat exhaustion	55	.....	x 10 or 555 cases @ $9 per case	4,950
Other violence	79	.....	Average service $25 per case	1,975
Other causes of death	5702	.....	Average service per case $25	85,530
Unknown causes of death	3	.....	.....	.....
Chicken pox	.....	5,125	3 visits per case	46,125
Mumps	.....	2,340	4 visits per case	28,080
Gonorrhea	.....	18,096	@ $50 per case	904,800
Syphilis	.....	10,000	x 6 old cases, 60,000 cases @ $150	9,000,000
Births	.....	61,672	@ $50 per case	3,083,600
prenatal care	.....	.....	75,000 pregnancies @ $25	1,825,000
1st yr. infant welfare	.....	.....	60,000 @ $30	1,800,000
Minor operative proceedures	.....	.....	Estimate 40,000 @ $25	1,875,000
Major operative treatments	.....	.....	Estimate 20,000 @ $150	3,000,000
Periodic health examinations	.....	.....	Estimate 700,000 @ $10	7,000,000
Total				$49,670,153
To the itemized list above, must be added considerable sums to cover many services that will occur to the mind of every reader; such as most of dermatology; most of eye, ear, nose and throat; school physicians; health department physicians; nervous and mental diseases; industrial medicine; anesthetists; physicians in clinical laboratories; insurance examinations; electrotherapy; the bulk of internal medicine, x-ray and radium; physicians engaged in teaching; consultations; out of town patients; extra charge for night calls; larger fees charged by more prominent practitioners; and those items in the above list for which no estimate is included. It seems very conservative if these services are estimated at approximately				15,329,847
Probably then, the public NEEDS, approximately, service valued at				$65,000.000

Note 1.—Typhoid prophalyxis should take the place of curative treatment 100 percent. It is estimated that the population is 3,000,000; immunity lasts 4 yrs; an average of 750,000 persons require the treatment each year @ $9.00.

Note 2.—Smallpox vaccination renders immunity for 6 years, so an average of 500,000 persons should require vaccination every year @ $6.00.

Note 3.—Diphtheria: 61,672 births a year indicate the need for the same number of persons receiving toxin-antitoxin @ $9.00. To this number should be added those who move into this community.

doctors", etc. Great success rests upon a broad foundation.

In each business group each success helps the whole group; each failure or unpopular representative injures the whole group. Physicians must recognize these business priniciples and so modify their professional structure as to eliminate those agencies which act to injure any element of our group. This applies to overgrown dispensaries, poorly paid industrial practitioners, self-advertising individuals and others.

To throw up our hands and proclaim that there are unpleasant factors that always

have existed and that we can not bring our business into its greatest possibilities, is to admit that we are not so capable as men in other occupations. This task is *ours* and we must face it squarely. Laymen only seek to interfere because they believe that they can do it better. State medicine can only come because physicians fail to handle their business properly.

Alternative Methods

It is suggested that the medical business needs to institute business methods. Business management may be secured in either of several ways: (1) By State control; (2) by corporation control; (3) by racketeer control; (4) through organized medicine; or, (5) through group and individual competition.

State control is "State Medicine", in which politics and politicians care for the problem of medical economics. It means deterioration of the quality of service, waste of money, pauperization, graft and abuse.

Corporation control is industrial medicine, insurance or clinic. The patients' interests are secondary to the financial interests of the corporation, whether this corporation be an employer, insurance company or a clinic. It is a corporation that practices medicine and retails physicians' services to the patient.

Racketeer control has already raised its threatening menace. There is no doubt that many were so desperate that they were ready to embrace it, with all its faults, rather than to endure a continuance of present conditions. This is that type of business organization in which certain men organize the business so that they can retain absolute control, can intimidate men into joining, can enforce any rules and penalties they deem desirable and exact such dues, fines and tribute as they believe it is possible to extract from their followers. It is to be presumed that the "business manager", "executive secretary" or whatever he may call himself will use any strong-arm methods to help his members to secure their pay, because he can thus secure for himself a greater tribute. It is a reflection upon organized medicine to have to admit that there are conditions existing today which make a considerable proportion of practitioners receptive to such a proposal. The dangers inherent in such a manner of organization of physicians are so apparent that it is to be hoped that present unsatisfactory conditions can be corrected, so that future attempts to bring medicine under racketeer control will not be considered by any physician.

Organized Medicine: It is believed that physicians are capable, if they can be aroused, of uniting themselves into efficient organizations. In most instances this can be done by expanding and developing present organizations. It is my opinion that this is the best method. They should expect to do this just as adequately as men in other occupations have done. None of these other groups have sought physicians to direct them; so why should physicians depend upon a lawyer, a merchant or some one drafted from another field to straighten out the problems of Medicine. By this method the public and the profession need not submit to exploitation by heartless or greedy middlemen, by politicians, the promoter or the racketeer.

Individual physicians or small groups might, theoretically, solve the problem, but much of the present trouble depends upon the acts of individuals and small groups, so it may be taken for granted that individuals and small groups are strongly tempted to adopt the slogan, "After me, the deluge".

It is to be hoped that every practitioner will realize that he is a partner, that the market exists, and that the medical profession must inaugurate a modern type of organization in each community to care for the medical business and health service, in as efficient a manner as other types of service are now handled.

1951 Irving Park Blvd.

Worry

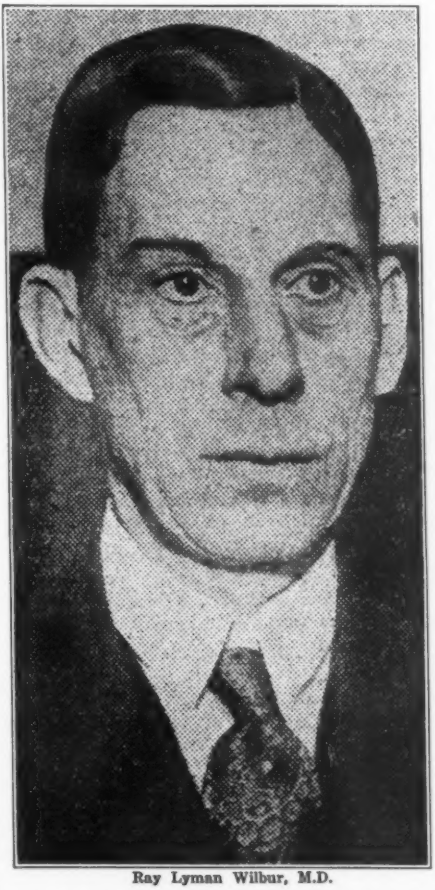
Worry is getting into a disturbed state of mind over what you have to do next week, while you are trying to accomplish what you have to do today—though by next week, what you were worrying about last week may prove to be a pleasure rather than a hardship, or may not have to be done at all.—Dr. James J. Walsh.

Notes from the Congress on Medical Education and Hospitals

Reported by GEORGE B. LAKE, M.D., *Chicago*

WHEN the troubles of the medical profession are under discussion, the talk comes around, sooner or later, to the medical schools, and curiosity is expressed as to why these institutions are not teaching their students the things they need most to know.

Attendance at a number of the annual gatherings of medical teachers and hospital executives, sponsored by the Council on Medical Education and Hospitals of the A.M.A., sheds some light. This year's meeting was held in Chicago, February 18, 19 and 20, 1929, and celebrities from all over the country were there, including the Surgeons General of the Army and the Public Health Service and the new Secretary of the Interior, Dr. Ray Lyman Wilbur, who is chairman of the Council.



Ray Lyman Wilbur, M.D.

The difficulty seems to be that "large bodies move slowly," and that pedagogic methods change more slowly than almost any other factors in our lives. The individual educators are keen fellows, full of sound, practical ideas; but boards of regents must be rock-ribbed conservatives, if not reactionaries. Some one has defined a "board" as a thing that is flat and narrow and made of wood. Maybe so.

The session this year was as well attended as usual, and most of the men seemed enthusiastic and eager to help. The meetings on the hospital day were divided into sections, which made it impossible for one man to hear all of the interesting papers. Here are abstracts of some of them.

MEDICAL EDUCATION AND THE COST OF MEDICAL CARE

By Ray Lyman Wilbur, M.D., Secty. of the Interior, President, Stanford University, Calif.

Many important changes have been made during recent years in educational methods, in laboratory work and in many types of human relations, but none in the effects of bacteria on the human body or in the psychology of the relations between a patient and his physician.

One reason for the present high cost of medical service is the length of time the student must spend in getting his medical education; and one way to improve this condition would be to eliminate the long summer vacations, which are unnecessary, and complete the medical instruction of the student in three years of four "quarters" each, instead of four years, of three "quarters."

Another factor is the huge sums now spent for elaborate plants for undergraduate instruction (one now projected is to

cost 55 million dollars). Medical students need less laboratory and specialistic training, with more hospital service, individual instruction and actual handling of patients. The old lecture system was cheap in salaries paid, but expensive in results obtained.

The doctor needs to be trained in social and economic matters, not solely in the care of the sick. More emphasis should be placed upon facilities for regular and helpful postgraduate instruction, during the physician's entire professional life.

Measuring Personal Ability

By David A. Robertson, A.B., Washington, D. C., Assistant Director, Am. Council on Education

When the average man needs a doctor, he wants a good one. But how can he tell? The ordinary directories do not permit a physician to give any information about himself which would be helpful to a stranger in making a selection. Why not permit doctors to publish the name of the school from which they graduated, with their titles and degrees, so that people will have some basis for making a sound judgment?

Neither the grades attained in school and college, nor the socalled intelligence tests, give any real measure of the capacity of any student for growth under education or the development of common sense. The new *achievement tests*, which are now being worked out, offer a better probability of gaging the possible accomplishments of an actual or prospective medical student.

These tests are very interesting and have been given a trial at George Washington University Medical School, Washington, D. C., with results which appear to confirm their value. (The forms used can probably be obtained from the Center for Psychological Service, of the School). They are arranged on the general plan of the well-known "intelligence tests," but consist of material bearing directly on the work of a medical student and embrace: (1) Scientific vocabulary; (2) pre-medical information; (3) visual memory; (4) memory for content; (5) comprehension and retention; (6) understanding of printed material.

One thing which is badly needed is a clear statement of the personality traits required to make a successful physician, and of what, specifically, a doctor does and is. (This has, in part at least, been done in the pamphlet, "The Profession of Medicine," by Hortense Hoad, reviewed on page 285 of this issue).

Another valuable purpose would be served by giving all students, before graduation, objective tests and comparative personality ratings (*pictures* of personality, based upon observed suggestive acts), to assist them in determining the line of work to which they are best suited. The making of these personality studies is an *art*, which can be *learned*.

The Teaching of Surgery

By Dean Lewis, M.D., Baltimore, Md., Prof. of Surgery, Johns Hopkins Univ. Sch. of Med.

The field of surgery is constantly being enlarged, but the time available for instruction grows less and less.

The undergraduate school should teach surgical *principles* and the handling of emergencies, not details of major operations. These latter should be left for postgraduate study by those who have a special desire *and aptitude* for surgical work, and should then be very thorough.

All clinical work is out of place in the preclinical years. The student lacks the knowledge to appreciate it, and it diverts his mind from mastering the fundamental studies. *Demonstrations* are better, showing the *clinical application* of the fundamental studies, as the student approaches them; such, for example, as the relations which muscle actions bear to fractures, during the study of anatomy.

The student should go to the out-patient clinic in his third year, to learn history taking and the principles of diagnosis by physical examination. The operating room should be a laboratory for the study of gross pathology and diagnosis. The *imagination* should be trained to grasp those things which cannot be evaluated by the physical senses. Lectures and demonstrations should go along with the clinics, in order that a full comprehension of the conditions may be obtained.

A *sense* for scientific training must be acquired during student days, if it is to be acquired at all. Clinical surgery should be taught to *small* groups, *directly*. The student should not be burdened by learning eponymic terms; but the study of medical history and the reading of the classical

original contributions to medical literature should be encouraged.

No conflict between obligatory and elective subjects should be permitted. Clinical surgery should be painstakingly taught, *at the bedside*, by careful and critical observation of a large amount of clinical material. The student will thus gain a considerable fund of *practical, personal* knowledge. Original and independent study is always best.

A number of changes in the teaching of surgery seem to be necessary, but they must be made with judgment, for *change is not always synonymous with progress.*

The Teaching of Medicine

By Ralph H. Major, M.D., Kansas City, Prof. of Medicine, Univ. of Kansas Sch. of Med.

This is (to our sorrow!) an age of "short-cuts" and the following of the path of least resistance. We use medical textbooks as if they were a Bible or catechism, instead of turning to them for reference, *after* seeing the patient.

We should not try to show the student cases of *all* diseases, but should demonstrate those which he is most likely to meet (filling in the gaps by lecturing upon the rarer conditions) and teach him to take a good history, make a complete and accurate physical examination, do the simpler clinical laboratory tests and arrive at *sound findings*, after which the diagnosis may be determined by further study.

A knowledge of Medicine grows by *episodes*, as the mastery of a language grows by learning sentences. The student must learn to *think medically*.

Much of the criticism now being directed against laboratories is due to a misapplication of their results. Physicians must learn to use their brains and must gain a knowledge of what laboratories can *not* do.

Physical and microscopic diagnosis are most important in the junior year. No lectures should be given when the students can be hammering away at *patients*. This is best done in the dispensary. The best teachers are men who are in active practice and spend several hours a week in practical teaching.

The best thing we can do for the medical student is to teach him high ideals and *scientific curiosity* regarding disease.

The high-class physician must be, not only a good doctor, but a *cultured gentleman* as well. Too many now think of John Ruskin only as a brand of cigars, and of Jupiter merely as a kind of washing machine.

The Teaching of Pediatrics and Obstetrics

By Julius H. Hess, M.D., Chicago, Prof. of Pediatrics, Univ. of Ill. Coll. of Med.

A pediatric teaching hospital should have a university affiliation, so that the professors can be members of its staff. It is best to have a few full-time and part-time paid men on duty. An associate, one or two residents and the head of the social service department should be on a full-time, salaried basis; and there should be one or two half-time teachers.

Ward work is necessary for students of pediatrics, but it is not sufficiently extensive. The out-patient clinic takes first place as a great clinical laboratory, where a wealth of material is available for diagnostic study. Such a clinic, to give best results, must have enough patients distributed throughout the week and must be equipped with private rooms and adequate apparatus for clinical and laboratory examinations; records must also be readily available and team work must be encouraged.

The student of pediatrics must study the handling of milk and the details of the practice of infant feeding. The laboratory man must have a sound knowledge of clinical practice in order to do his work intelligently.

Nurses should receive most of their instruction *in the wards*, with a few lectures to supplement the actual work done. The first requirement of a good nurse is the adequate, practical and intelligent care of sick people.

[In *discussing* this paper, *Dr. J. O. Polak, prof. of obstetrics and gynecology, Long Island Med. Coll. Hospital*, remarked that medical graduates in the United States are less well trained in obstetrics than are the midwives in Germany and Scandinavia. That our obstetric teaching is low-grade is proved by the fact that 46 percent of our obstetric deaths are due to sepsis and 27 percent to toxemia—both of which are preventible conditions.

The medical colleges should turn out men who are *ready* to do the work they encounter during the first two years of practice. During these years, 50 percent of the practice is medical, 35 percent obstetric and 15 percent surgical; and yet, surgery receives four times as much teaching attention as that given to obstetrics.]

The Hospital Staff Conference

By Frank J. Salden, M.D., Detroit, Mich. Physician-in-Chief, Henry Ford Hospital.

The Council on Medical Education and Hospitals has made the staff conference a requirement, but has left it flexible, so that each hospital can arrange the details to meet its requirements.

There are great differences between the large and the small hospital. In a large institution, many special interests tend to call for many specialized meetings, thus using up all the time of men who need to find an hour or two, now and then, for recreation. The general medical staff conference could, in large measure, take the place of all of these.

Few men will ever be great teachers or outstanding research workers, but all medical men can be made reasonably good clinicians. The hospital should put its stamp on all who receive instruction within its walls.

To make staff conferences most valuable, attendance and leadership are essential. Make the section chiefs responsible for the attendance of their groups; urge them to arrange routine duties so as to make this possible, and to keep records of absentees. Leaders do not grow on every bush, but the staff conferences will *develop* them.

We must learn the technic of *conferring* and remember that these meetings are neither executive sessions nor debates, but are intended to *clarify the ideas* of all present.

There are six objective purposes of the staff conferences:

1.—Case presentation.
2.—Records and routine.
3.—Supplementary activities.
4.—Cultural exercises.
5.—Morale.
6.—Orientation (economics).

Case Presentation: Notify several departments to get cases ready for presentation, but do not announce which cases will actually be presented until just before the conference. This will keep everyone on his toes.

Every person who has handled the patient—from the ambulance orderly to the pathologist—should be present at the conference and should be called upon for a report. In this way all can see how the case *unfolds*. The conference should be a forum for sharpening wits.

Records and Routine: It should go without saying that all records, of every sort, having to do with the case or cases presented, should be complete and easily available.

Supplementary Activities: It is highly desirable that every agency entering into the management of the case should be heard from. This includes, not only the pathologist, the roentgenologist, and the surgeon, but also the nurses, the pharmacist, the physical therapist, etc.

Good frequently results from reading the names of the men who have been especially successful and unsuccessful in obtaining autopsies, with a word or two as to the circumstances, in either case.

Cultural Exercises: The staff conference is an excellent place to inculcate the use of good English, the study of medical history, and other matters of cultural importance.

Morale: The *esprit de corps* of a hospital staff is always highly important. Full credit should always be given, in public, to those who have done commendable work; but reproofs should be reserved for private and personal talks.

Orientation: The staff conference offers an opportunity for spreading information on all the work done in the hospital and for showing how the institution functions, as a whole. All will profit by learning that the economic features of the hospital consist of three agencies:

1.—Those who outline policies (the Board of Trustees).

2.—Those who set up machinery for carrying out the policies (the Department Heads).

3.—Those who make the machinery run (the Junior Staff and Interns).

The Superintendent stands between the trustees and the department heads; and the senior staff between the department heads and the junior staff. The creative work of the hospital is done by factors 1 and 2.

The public is changing its opinion in regard to hospitals, and the reputation of each institution depends upon individual contacts with physicians and other personnel, so all must be alert.

We must remember that the hospital has three major functions:

1.—To care for the sick.

2.—To teach medicine and nursing.

3.—To act as a center for educating the public in the principles of hygiene and medical progress.

Autopsies

By Bernard Steinberg, M.D., Toledo, Ohio, Pathologist, Toledo Hospital

If the physician does not keep abreast of the progress in medical science, he places himself in the class with chiropractors, naprapaths and other irregulars and is easily deceived by charlatans.

We must have a campaign of education —for physicians as well as for the laity— as to the importance of autopsies in the scheme of medical education and progress.

Physicians are busy men and cannot always attend every autopsy, for these must be performed promtply after death occurs. Much can, however, be accomplished by establishing friendly relations with the undertakers and enlisting their cooperation.

The clinico-pathologic conference bridges the gap between the wards and the dead-house, and its details must be adapted to the circumstances of each hospital. If the members of the staff are to attend these conferences they must be made *attractive*, by putting an able man in charge and by having a reliable, full-time pathologist. Such a conference may be a stimulant or an hypnotic.

The clinico-pathologic conference should be held regularly, once a week, for one hour, at a time convenient to the greatest number of staff members and residents. Summaries of the clinical histories and laboratory reports of the cases to be presented should be distributed *in advance* of the meeting, so that all concerned may make preparation for intelligent discussion.

The *clinician* should preside at these meetings and should discuss the clinical history and diagnosis *before* the pathologic diagnosis is given. The clinical presentation should occupy twenty to thirty minutes; the pathologist's report about twenty minutes; the rest of the time being given to general discussion, which the chairman must hold strictly to the subject in hand. Gross specimens, lantern slides and a summary of the newest ideas on the subject should be presented. The hospital librarian can help greatly by getting up a list of references bearing on the case and making this available. Specimens from the operating room may be used with profit.

Cases commonly met in practice are best for these conferences. Rare cases and scientific freaks are of little practical value. Especial stress should be laid upon discrepancies between clinical and pathologic findings and on checking the results of therapy. The pathologist should be tolerant and helpful; not unkindly and critical. He should keep himself in touch with the clinical side of the problems by going through the wards frequently, with the internist and surgeon, so as to cultivate mutual understanding.

The time devoted to these conferences is limited, and they must be made *practical*, from a *clinical* point of view. Attendance will depend directly upon their *helpfulness*.

The autopsy and the clinico-pathologic conference make for sounder diagnosis and treatment and, if properly used, will "sell themselves" to the staff and make an important addition to postgraduate instruction.

Medical Teaching for Rural Physicians

By Thomas Ordway, M.D., Albany, N. Y., Dean, Albany Medical College

Most rural physicians do not want formal teaching, but a chance to see patients treated by modern methods and to talk things over with others. They do not want to be trained as specialists, but to review the various subjects and bring themselves abreast of the times.

The advice of self-chosen specialists (even when they are not frauds) is often misleading and over-expensive to the patient. The family doctor is the sound basis for medical service, and he can select such special help as may be needed.

Graduate instruction is essential for all rural physicians who desire to be efficient, but most of them cannot go far from home nor stay long. It is, therefore, necessary to *bring such teaching to them*. This the Albany Medical College is striving to do, in its system of hospital centers, which are about 20 to 30 miles apart. Here physicians may come, for one day a week, to see and study patients and to consult with each other and with the teaching staff. Instruction in mental hygiene and in the psychic factors in disease are also given.

Another day a week is spent in coordi-

nating clinical, laboratory and didactic instruction and in teaching the fundamentals of public health work and the management of infectious diseases. In this latter part of the program, the Board of Health cooperates.

The ideal plan for the country doctor (which we are trying to carry out) is:

1.—To attract students from rural districts.

2.—To train them for *general practice* at *minimum expense.*

3.—To assist graduates in finding rural locations.

4.—To help the physician in his work, *after* graduation.

5.—To instruct the rural residents as to the *need* for the family doctor, and how to treat him when they get him, so that he will want to *stay* in the rural location.

Partial Vacuum Method of Determining Urea in Urine*†

By R. B. JENKINS, M.D., *and* F. A. MATYAS, M.D., *Los Angeles, Calif.*

THE determination of urea in urine is of recognized importance, since it portrays physiologic as well as pathologic protein metabolism. It is known that the selective action of the kidney maintains the urea nitrogen at a level of 50 percent or less of the total nitrogen of the blood, but that an impairment of renal function, even of very slight degree, may result in an increase of the percentage of urea nitrogen within the blood.

Since the kidney permeability to urea nitrogen governs the concentration of this substance in the blood, the exact determination of the urea excreted through the kidneys becomes of prime importance.

A great number of experiments prove that the routine methods used in clinical laboratories for determining the amount of urea present in urine are inaccurate and confusing and, in consequence, the results obtained do not portray the actual urea elimination of the kidneys and, therefore, the determination of urea elimination by those methods is of little or no value from a diagnostic standpoint.

This research was undertaken for the purpose of studying all of the current methods, selecting the most satisfactory one and by working over all of its variable factors, to find the cause of errors and correct them, until the resulting test conforms to all of the requirements given below.

Basing our work on the scientific principle of following from the known to the unknown, we found that the discovery of the urease enzyme by Takeuchi[1] established the possibility of a specific test for urea. Since that time a large number of investigators have published varying methods of quantitative tests for urea in urine.

REQUIREMENTS AND METHODS

While every author claimed one or more points of advantage for his method, it is an accepted fact that none of those published up to date measure up to all of the four required points to render a test desirable; viz., (1) that it be specific; (2) accurate; (3) practical; (4) give uniform results when performed under the same conditions by different technicians.

For our study we have selected four methods which are generally accepted and pronounced reliable; viz., (1) the hypobromite method[2] using the Doremus-Hind's ureometer for the solution which was prepared by adding 1.0 cc. of bromine to 30 cc. of 25-percent sodium hydroxide solution; (2) Gradwohl's modification of Van Slyke's urease method[3], fermenting the urine for thirty minutes at 50° C., then aerating the ammonium carbonates formed into an acid solution, which, after being Nesslerized, was compared by a Dubosq colorimeter against a standard ammonium sulphate solution; (3) Marshall's urease method,[4] fermenting the urine with urease for 12 hours at room temperature, after which the urine is diluted with decinormal hydrochloric acid solution, using a few drops of one-half percent methyl orange solution as

*From the Research Laboratory of the Angelus Hospital, Los Angeles.
†Received for publication, Jan. 23, 1929.

an indicator; (4) Folin and Denis urease method,[5] fermenting urine for fifteen minutes at 50° C., adding 1 cc. of metaphosphoric acid solution and 1 Gram of blood charcoal; this is filtered and the filtrate Nesslerized directly and compared with a standard ammonium sulphate solution under the Dubosq colorimeter.

As stated above, our experiments were performed according to the scientific rule of "proceeding from the known to the unknown" and as a result, in the first four experiments we corroborate the findings of other investigators; i.e., the specific action of the urease on urea, the unreliability of the hypobromite method, as well as the impracticability of the present available tests.

A glance at the accompanying tables* will reveal the widely varying results obtained by these four methods, which we found to be due to one or more of the following factors: The improper temperature, as well as the improper time of fermentation; the dilution of the urine; the amount of Nessler's reagent used; and the process of aeration, which, besides showing an apparently unavoidable loss of some urea nitrogen, proved to be too time-consuming.

Folin's method, by direct Nesslerization, seemed most practical. However, different tests made on the same urine show wide variations, besides which the use of metaphosphoric acid and blood charcoal involved additional variable factors, rendering the test too complicated.

Gradwohl's modification of Van Slyke's method, giving the maximum results, was used as a basis for our subsequent experiments; omitting the process of aeration we found that this test would be practical. However, results obtained were lower than by the aeration method. By assuming that the low and widely varying readings were due to the improper action of the enzyme and cloudiness of the solution, interfering with the reading on the colorimeter, we began working over separately all of the factors which might cause the assumed errors. The optimum temperature of the urease was shown to be between 38° and 44°C., a fact which, in our subsequent experiments, proved to be of great value, in that the necessary time of fermentation at this temperature is only 20 minutes, thereby bringing the test nearer the desired standard.

In searching for some ingredient which might interfere with the action of the urease, we failed to corroborate the reported findings of some investigators, that creatinin normally present in the urine will retard the action of the enzyme or interfere with the development of the color after adding Nessler's reagent. We also found that the reaction of the urine does not interfere with the action of the urease enzyme.

For our experiments on different enzyme preparations we used two freshly-preparerd extracts, one from soya bean, the other from jack bean meal. The third was a dry preparation, placed on the market by the Arlco Products Co. Not only did the jack bean extract give the maximum readings of urea[6] but it also gave the least cloudiness, and therefore we used it in all of our subsequent experiments. The persistent slight cloudiness was overcome by diluting the urine from 1 to 20, and using 2 cc. for the test.

To avoid the accidental loss of urea nitrogen, by the addition of reagents or from improper technic, we devised a vacuum flask, prepared as follows:

A 200 cc. flask is made air tight with a rubber stopper, through which the stem of a separatory funnel passes, the end of which extends one inch below the rubber stopper in the flask. The stop-cock of the separatory funnel is opened and the flask is heated at 100° C., in a water bath, for ten minutes. Before removing the flask from the water bath, the stop-cock of the separatory funnel is closed. The flask being air tight, a partial vacuum remains in the flask, which is now ready for use.

Deriving our conclusions from experiments shown herein, we have devised our new method for the quantitative determination of urea in urine. This method has been used in our institution for the past three months and proved to be satisfactory on normal, as well as pathologic specimens.

The normal urines used in our experiments were obtained from the laboratory staff and maintenance help of our institution, and the pathologic urines from patients hospitalized in our institution and diagnosed as chronic nephritis, diabetes, and one case of typhoid fever. The results obtained by the new method show an almost perfect agreement with the Moerner-Sjoquist

*The tables are here omitted to economize space, but will appear in the reprints, which the authors will send to interested persons on request. They demonstrate the findings mentioned in the text.—Ed.

method, while the deficiency of the other methods is very pronounced. When the relative time required for the determinations is considered, the right of the new method to a general try-out seems fully established.

The New Method

Preparation of the Enzyme: To 5.0 grams of permutit (washed by decantation in a 2-percent acetic acid solution and twice in water), add 20 Grams of jack bean meal and 200 cc. of 30 percent alcohol. Gently shake for 10 minutes, filter and use 1 cc. of the filtrate for each determination. The enzyme in this filtrate can be kept active for 28 days by adding 0.3 Grams of camphor to each 100 cc. of the enzyme solution.

The Test: Dilute the urine to be tested, 1:20; introduce 2 cc. of the diluted urine in the separatory funnel of the previously prepared vacuum flask and add to it 1 cc. of the jack bean urease solution.

Opening the stop-cock of the separatory funnel just enough to let the urine and urease solution flow into the flask without the entrance of air, then close it again, thereby maintaining a partial vacuum in the flask. In the same manner, 2 cc. of distilled water is added to the urine and urease solution in the flask, for the purpose of washing down any of the enzyme and urine mixture that might have remained in the separatory funnel outside the vacuum flask. The whole apparatus is then placed in an incubator or water bath at 40°C. for 20 minutes.

While fermentation goes on, measure into a graduated cylinder 42 cc. of distilled water and 3 cc. of concentrated Nessler's reagent, prepared according to Hawk.

When the time for fermentation is up, this diluted Nessler's solution is poured into the separatory funnel and, by opening the stop-cock, is added to the fermented urine, gently shaking the solution as it flows into the flask, so that the Nessler's solution may react with all of the ammonium carbonate formed in the vacuum flask.

The solution is then immediately compared, on the Dubosq colorimeter, against the standard ammonium sulphate solution, which is prepared as follows: To 1000 cc. of distilled water, add 0.944 Grams of ammonium sulphate this quantity representing 1 mgm. of nitrogen in 5 cc. of this solution. In a clean flask place 42 cc. of distilled water, 5 cc. of the standard solution and 3 cc. of Nessler's solution. Place this in the glass container of the colorimeter and set it at No. 10.

The Reading: The standard being set at 10, the urine is now matched in color to the standard and the two readings taken. To find the percentage of urea in the urine, divide the reading of the urine into the reading of the standard, then deduct the ammonia nitrogen found by Folin's permutit method[1] and multiply the quotient by 2.14, the result being the urea percent in this urine.

Example: The reading of the urine is 14 and that of the standard is 10; 14 divided into 10 equals 0.71—that is, 0.71 mgm. of urea nitrogen in 2/20 or 1/10 cc. of urine; this multiplied by 1000 gives miligrams of urea nitrogen in 100 cc. of urine. To convert this into urea, we convert the miligrams into grams and multiply by the factor 2.14, thus:

$$\frac{0.71 \times 1000}{1000} \times 2.14 = 1.51 \text{ Grams of urea in 100 cc. of urine}$$

Acknowledgment: We are very much indebted to Dr. D. A. Thieme and Dr. C. L. Gaulden for a supply of material, valuable aid and generous co-operation; also to Dr. Regino J. Navarro, of the University of the Philippines, for information and general aid; and also to Miss Lydia Prior for her valuable cooperation in performing and checking the results obtained.

Conclusions

1. The jack bean urease enzyme is more active than that of the soya bean. Its optimum temperature lies between 38° and 44° C., for a maximum time of fermentation of 20 minutes.

2. A new method for the quantitative determination of urea in urine, by direct Nesslerization, is given, which measures up to the four requisite points for pronouncing a test desirable, namely: specific, accurate, practical and giving uniform results when performed by different technicians under the same conditions.

3. A new apparatus has been devised which, in the main, is a vacuum flask, by the use of which the escape of the ammonium carbonate formed is avoided.

Bibliography

1.—Takeuchi: *Jour. College of Agriculture*, Tokyo, Japan, I p. 1, 1909.
2.—Mitchell: "Modern Urinology", p. 60, 1912.

3.—Gradwohl, Blaivas: "Blood and Urine Chemistry", p. 79, 1917.
4.—E. K. Marshall, Jr.: *Jour. Biol. Chem.*, xiv, p. 283, 1913.
5.—Folin and Denis: *Jour. Biol. Chem.*, xxvi, p. 473, 1916.
6.—Annet R.: *Biochem. Jour.*, Liverpool, viii, 449.
7.—Folin and Bell: *Jour. Biol. Chem.*, xxix, p. 329, 1917.

Angelus Hospital.

Brain Tumor (Glioma)

(A Case Report)

By Thomas J. Heldt, M.D., *Detroit, Mich.*

THE patient whose case is the subject of this study is a married man, 34 years old, whose *family history* is entirely negative.

Personal History: Severe furunculosis in 1912 and again in 1919, while in the Army. He says he had a total of two hundred or more furuncles, and the skin still shows many scars. Gonorrhea at 20; iritis in the left eye in 1915 and 1916 and in the right eye in 1920. Has been subject to "rheumatism" for a number of years. He declares that he has had no positive Wassermann test at any time, nor has he had any convulsions prior to his present illness. A slight speech impediment has been present since childhood, characterized by hesitation, occasional mental blocking and sometimes a mild stammer. The patient is a heavy smoker and a moderate, occasional user of alcohol.

The patient declares that he has at no time experienced any headache worthy of mention, nor any nausea, vomiting nor undue dizziness or staggering. He does remember, however, that for about three months prior to his present illness he believed that he was "slipping." He began to experience difficulty in finding the right word and even in enunciation, with occasional slurring of his words and, during that time, he would sometimes notice a peculiar, awkward feeling in his right hand.

He left home on Wednesday, June 15, 1927, for a very active business trip and some fishing. He worked until the afternoon of the 17th, when he joined some friends and fished until dark. He ate four heavy meals that day. He fished all day Saturday in the sun, without a hat (he usually wore one), but did not feel overheated, and drank a little whisky.

Present Illness: The history of the onset of the illness which brought him under my care has been given in full detail by Dr. E. M. Cunningham, of Cassopolis, Michigan, who saw him first*, and need not be recapitulated here, as there is nothing to add.

Examination: (*July 22nd*, 1928). The patient had been home from the hospital about a week and had ventured naught beyond being up and about the house. He was alert to questions addressed to him but it was observed that he readily became fatigued mentally, and he clearly disclosed defective mental tension in trying to make simple subtractions in regard to dates of birth in his family. Speech was only slightly hesitant and a little faltering. He spontaneously remarked, "You know, I just feel like I had been 'beaned'—like somebody had hit me over the head."

Both pupils were slightly irregular but equal; slightly dilated (4 1/2 mm.); reaction satisfactory. Corneal sensitivity seemed slightly obtunded, bilaterally. The tongue was protruded centrally and was unusually red but not beefy. No other cranial nerve impairment appeared.

Although there is a history of wrist drop on the right, the grips were then equal and we made out no motor system impairment and no sensory disturbance. Deep tendon reflexes, in general, were slightly diminished, but with distraction and slight reinforcement they were hyperactive (two plus). Abdominal reflexes were a little more brisk on the right than on the left. There was no ataxia and no impairment of cerebellar function.

Ophthalmoscopically, the fundi showed definite hyperemia but were otherwise negative.

Provisional Diagnostic Interpretations:

1.—Major motor seizures, on the basis of endogenous toxemia, in which the patient's neglect of his bowels, exposure to the sun and business strain were probably precipitating factors.

*See Clin. Med. and Surg., Sept., 1927, p. 704; and Jan., 1928, p. 52.

2.—An atypical encephalitis or neoplastic cerebral involvement requires further consideration.

The family was advised that observation was the best policy; further studies to include stereo-roentgenograms of the skull, a detailed cardio-respiratory review and a further lumbar puncture. This advice was supplemented by ordering Luminal (phenobarbital), 3/4 gr. (48 mgm.) three times a day, with detailed directions regarding diet and care of the bowels.

July 9th and 10th: Roentgenogram of skull: "Rather small, closed-in sella turcica. No evidence of any increased intracranial pressure."

Lumbar Puncture: Initial pressure, 14 mm. Hg. Spinal fluid pressure on Queckenstedt maneuvers: Pressure on the right jugular, 24 mm. Hg.; pressure on the left jugular, 30 mm.; pressure over both jugulars, 44 mm. Hg.; after collection of 12 cc. clear spinal fluid, final pressure, 8 mm. Hg.

Laboratory Report on Spinal Fluid: No globulin; cells 3; Wassermann test, negative with Kolmer and Kahn technics; Lange 0000000000; Mastic 0000000000; sugar, 74.

Blood Chemistry: Non-protein nitrogen, 26.3; blood sugar, 88.

Blood Count: Red blood cells, 4,000,000; hemoglobin, 14.5 grams (93 percent); color index, 1.13; leukocytes, 7,600.

Uranalysis: Specific gravity, 1.015; reaction, acid; albumin, three plus (85 mgm. per 100 cc.); 4 plus massed leukocytes. Phenolsulphonephthalein intravenous renal test, two hours, 55 percent.

Perimetric examination showed questionable slight constriction, temporally, in left field of vision..

Cardio-respiratory review by cardiologist: "No dyspnea; no cyanosis; apex beat not felt. Cardiac rate 80; regular rhythm; no accentuations. Relative cardiac dullness, 2x10 cm.; no murmurs; pulse regular; arteries palpable; blood pressure, 135/75; lungs clear."

Electrocardiogram: "The QRS complexes are somewhat smaller than normal but other findings are negative."

Temperature, pulse, and respiration curves during this hospital admission disclosed no unusual fluctuations. There was no tendency to bradycardia.

The patient was returned to his home with the instruction that he should still refrain from active industrial endeavor but should undertake increasing outdoor exercise in the form of walking. His diet was limited to a "basic-bland", with restriction of proteins and limitation of carbohydrates.

July 19th: General improvement. He feels slightly "dopy" (he was taking 2 1/4 grs. of luminal daily). He is having excessive saliva in his mouth and occasionally finds himself drooling. This sialorrhea may prove to be significant.

September 19th: *Urologic Examination*: N. P. N., 31.6; urea nitrogen, 11.6; blood sugar, 71. Concentration test: Day specimen of urine, specific gravity 1.015, reaction neutral, albumin two plus; night specimen, specific gravity 1,020, reaction acid, albumin, one plus. Phenolsulphonephthalein intravenous test, two hours, 82 percent. Routine urine specimen showed two plus leukocytes. The renal function is within average limits, but as a safeguard, a nephritic diet was prescribed.

October 21st: Patient declared that he had experienced no epileptiform seizures of any kind and was getting on splendidly. Of his own accord, he discontinued his Luminal three weeks ago. He was asked to return to it, taking 1/4 grain on arising.

October 29th, 1927: The patient was admitted as an emergency case to the Receiving Hospital of the city and transferred to our care at this hospital at 4:00 P. M. Transfer note from City Hospital recorded: "Status epilepticus (?) Hysteria (?) In coma, no history obtainable. Had repeated epileptiform seizures, consisting of irregular clonic movements of arms, followed by generalized tonic, then clonic, spasms. Cyanotic during seizures; no incontinence. Marked resistence movements suggestive of hysteria."

Our Resident Physician's Remarks: "Patient is semi-stuporous. When first seen (4:00 P. M.) patient did not respond to questions, simple commands, or painful stimuli; but at 4:30 P. M. he mutters some intelligible replies, sits up in bed and weakly resists examinations. There is a spasmodic contraction of the muscles supplying the right thumb; fingers are held in pill-rolling attitude; other limbs quiet. Eyelids closed; resists opening them. Tongue red and dry—somewhat dehydrated (?) Blood pressure, 120/80. Rectal temperature 99.8° F.; pulse 86; respiration 20. Hysteria (?)."

Blood Count: Red blood cells, 4,770,000; leukocytes, 20,3000; polymorphonuclears, 87 percent; small mononuclears, 4 percent; large mono., 3 percent; transition-

als, 6 percent. *Uranalysis*: Specific gravity, 1.012; reaction, acid; albumin, three plus (about 50 mgm. per 100 cc.); no sugar; occasional leukocytes. *Blood Chemistry*: Nonprotein nitrogen, 40; blood sugar, 91; blood Wassermann test, negative, with Kolmer and Kahn antigens.

Personal Examination, 5:30 P. M.: The patient showed some evidence of rationality but could not and did not speak. At that time we were impressed with the probability of marked mental blocking, rather than a very definite aphasia. He seemed to understand simple directions and commands, but when we did not comprehend his efforts at expression he became impatient and even evinced some anger.

There was definite paresis of the right arm, with hand slightly flexed and adducted on the wrist, and more or less rhythmical twitching of the right arm, most marked in the hand; questionable flatness of the right side of the face, but facial muscular contractions seemed unimpaired. The pupils were equal, 3.5 mm., right somewhat irregular, reaction to light rather sluggish. There was moderate general diminution of all the reflexes, but no inequalities. The ocular fundi were more hyperemic than previously recorded.

Lumbar Puncture, 6:30 P. M.: Initial spinal fluid pressure, 16 mm. Hg.; 15 cc. of clear fluid withdrawn; final pressure, 6. *Spinal fluid*: Cells, 6; globulin, 0; Kolmer, 0; Lange, 0000000000; Mastic 0000000000; sugar 78. Spinal fluid culture, negative after eighteen hours and after forty-eight hours.

Uranalysis: Specific gravity, 1.007; reaction neutral; albumin three plus; occasional leukocytes.

October 30th: The patient is mentally clear; does not talk, but nods and shakes his head in answer to questions. The right palpebral fissure is wider than the left. Questionable twitching of right side of face is noted. Patient writes short sentences in making inquiries about his children. Leukocytes, 13,400 at 2:30 P. M.

November 2nd: Dr. Carl D. Camp, of Ann Arbor, reviewed the case with us and corroborated our deduction that a definite brain lesion is present. The location of the lesion is clear (left, inferior, frontal area) but its nature is obscure (a neoplasm is suspected). Fever and leukocytosis warrant further observations and further exclusion of toxic origin.

November 3rd: The patient now speaks intelligently but hesitantly and complains of gastric distress. There is tenderness over the lower back, in the renal triangle; also in the upper abdomen, over the left kidney area and sigmoid.

November 4th: Personal studies into speech involvement permit the deduction of the presence of a definite motor aphasia. The right palpebral fissure is slightly wider than the left; slight flattening of right side of face; right labial angle retracted slightly less forcibly than the left; deep tendon reflexes generally diminished (obtained only on reinforcement), no inequality; muscular strength slightly less on the entire right side (right grip, 45; left, 65). Gastrointestinal studies show: "Chronic constipation; no evidence of organic gastrointestinal disease."

November 8th: The urologist reports, after cystoscopic and x-ray studies of the urinary tract: "Kidneys show no obvious pathologic change." The urine is free from albumin.

Minor spasmodic seizures, chiefly of Jacksonian type, occurred two or three times daily, without loss of consciousness or power of speech, from Nov. 10 to 29, during which time there was little change in the patient's condition from the findings reported. On the latter date, he was transferred to the Mayo Clinic for a craniotomy.

Transfer Diagnosis: Organic disease of the central nervous system, undifferentiated. Toxic manifestations have been prominent, but in view of the very definite localization in the left motor and speech areas, neoplastic involvement demands consideration. Exploratory craniotomy advised.

Discussion

With a bona fide motor aphasia and with unequivocal, recurring motor seizures, constantly initiated by twitching of the right arm, it is not hard to place the cerebral lesion, but the conservative diagnostician insists on the certainty of these observations. In this case, the history of speech impediment since childhood, with obvious affective instability during the present illness, demands a very critical review of the aphasic manifestations. The fleeting character of the twitchings makes one mindful of the desire for personal inspection.

The nature of the lesion is more difficult to determine. My first experience, in France, in December, 1918, with lethargic

encephalitis, was to see within one week, two soldiers struck down by major motor seizures, with unconsciousness for some hours; then briefly clear; only to die within forty-eight hours in coma. The histopathology was clearly that of epidemic encephalitis.

Again, an anxious mother called, "Doctor, come quick! My child (2 1/2 yrs) is having a convulsion! He never had one before." Neurologic examination disclosed no cause in the central nervous system. Puncture of the ear drum relieved a purulent otitis media and the child has had no seizures during the four years that have elapsed since that time.

Spasmophilic reactions most certaintly have their cerebral components and are not always confined to children. Furthermore, very recently a girl of seventeen presented the exact symptom-picture, except for the toxic evidences, of the case under discussion. Exploratory craniotomy revealed a complex, arteriovenous aneurysm, such as that described by Dandy (*Archives of Surgery*, vol. 17, pp. 199-243, 1928).

In the present case, the history of iritis; the fever; the leukocytosis; the very definite albuminuria; the variable pyuria; the polyphagia; the absence of the usual premonitory symptomatic headache, nausea, and vomiting; the absence of noteworthy ophthalmoscopic findings; and the absence of any increase in spinal fluid pressure on repeated lumbar punctures, are all misleading. The uncertainties expressed by the several able diagnosticians who saw the patient are also not very conclusive regarding the nature of the lesion. However, a brain tumor was found at operation—an *irremovable glioma.*

The patient was seen for a few minutes early in October, 1928. He had lost weight and was still subject to seizures, but these have been of frequent, distressing, minor type, rather than any incapacitating major ones.

Henry Ford Hospital.

An Experiment in Nutritional Hygiene

An Attempt to Introduce the Adequate Diet

By Victor E. Levine, A.M., Ph.D.

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ON MONDAY, April 11, 1927, the members of the Professional Men's Club of Omaha gathered for their usual weekly noon-day luncheon at the Hotel Fontenelle. On this particular day there was a departure from the routine menu, the food being chosen by the writer, with the idea of illustrating and putting into practical application the newer knowledge of nutrition. In addition to his meal, each member found before him a typewritten pamphlet setting forth reasons for the choice of the various foods and also commenting on some of the principles of modern nutrition.

The members of this Omaha club comprise the most eminent men in the professions—educators, physicians, clergymen, lawyers, musicians, dentists, engineers, architects, and military men. This group was chosen for the nutritional experiment because it consists of well-educated, well-trained and more or less progressive men. The comments of the members of this intelligent group, relative to what the average man who lives by routine would call a unique lunch, would, therefore, be of interest to a nutritionist, since they illustrate why there exists a wide gap between the facts of science and their application to present-day living.

The typewritten pamphlet is herewith introduced. It is followed by comments as they were published in the Omaha *Bee-News*, together with a discussion by the writer of their psychologic and hygienic implications.

The Pamphlet Distributed

"Methuselah ate what he found on his plate
  And never, as people do now,
Did he note the amount of the calorie count.
  He ate it because it was chow.

"He wasn't disturbed as at dinner he sat,
  Destroying a roast or a pie,
To think it was lacking in granular fat
  Or a couple of vitamins shy.

"He cheerfully chewed every species of food,
Untroubled by worries or fears
Lest his health might be hurt by some fancy dessert—
So he lived only nine hundred years."

That was all very well in Methuselah's time, but you must remember that Methuselah did not eat foods industrialized, commercialized, demineralized, devitaminized, devitalzed; colored, bleached, dyed; smoked, heated, boiled, cooked, fried; polished, extracted, concentrated, distilled; preserved, pickled, canned, refrigerated. His food was natural, adequate and balanced.

You must remember that he lived a simple, quiet life, spent a good deal of time in God's open air, and had plenty of sunshine and rest.

There is no record of Methuselah having, in his early days, a long line of debilitating diseases, such as scarlet fever, measles, pneumonia, diphtheria, acute rheumatic fever, mumps, chorea, whooping cough, etc. The nose, ear and throat men, as well as his private dentist, left no documents informing us of the presence of any foci of infection.

If Methuselah had lived on the present-day diet and had lived our present-day hectic mode of existence, he would have, early in his career, landed in one of our modern hospitals with a diagnosis of valvular heart disease, myocarditis, hypertension, arteriosclerosis, chronic or acute appendicitis, gall-bladder disease, nephritis, or diabetes.

His death certificate would have been signed "terminal pneumonia", and on autopsy there would be recorded the presence of stones in the kidney or gall-bladder, spleen and liver somewhat enlarged, hypertrophy of the right heart, glistening atheromatous areas in the aorta, and areas of consolidation in the lungs.

If Methuselah would not last long on our diet, what's wrong with it?

The American diet is stereotyped. It is based on social usage, not on scientific facts. McCollum and other nutritionists designate it as the meat-potato-bread-pie-coffee diet. It is wholly inadequate for optimal biologic existence. It saps vitality and brings about greater susceptibility to infection.

To be more concrete, the American diet is more or less deficient in vitamins (of which there are six) and in the minerals, calcium, iron and, in some localities, in iodine.

Malnutrition is a very prevalent condition. From 15 to 25 percent of the children of America (from three to five million) suffer directly from malnutrition. The incidence of malnutrition among the adult population is also very great. Malnutrition is no respecter of class. It is found among the rich as well as among the poor.

The term "malnutrition" is used in two senses. To the popular mind it calls up a picture of an individual, emaciated, anemic and scrawny-looking. To the nutritionist it calls up a picture of an individual who may be in good health to all outside appearances, but who, on analysis of his food intake, shows an excess in food intake or a qualitative or quantitative deficiency, however slight, in total food intake, in water intake, in carbohydrate, fat or protein intake, in mineral intake, or in vitamin intake.

To illustrate: Miss Alice Smith, although young, is old-fashioned in her ideas of nutrition. She is still counting calories. She takes no account of other dietary essentials, such as water, mineral elements and vitamins. She almost flew into a rage when told that she was suffering from malnutrition and that her hemoglobin content and red cell count gave evidence of anemia. In her attention to calories she forgot to supply sufficient iron in her diet.

Mr. Jones is a gentleman successful and well thought of in his community. He is good to look at and is well built. A study of his diet leads to the conclusion that he gets only 400 milligrams of calcium instead of 750 milligrams, which are the figures for an adequate diet. Even if his food is correct in all other dietary essentials, we still maintain that Mr. Jones is malnourished and that some day he will suffer the dire results following in the wake of malnutrition.

Mrs. White eats well. Her food is carefully balanced. But she does not drink enough water. She is constipated, and her skin is sallow and pasty-looking. She feels helpless, pepless, and hopeless. Mrs. White is suffering from malnutrition.

To illustrate once more: Mr. Mason is a well developed individual of forty-five. He has education, wealth, social prestige, and leisure. He is a member of the Athletic Club, swims, plays tennis and golf, and enjoys horse-back riding. He is an all around likable sort of a man. Unfortunately he has been complaining for the past several years of vague, ill-defined symptoms of malaise, lassitude, headache, loss of appetite. lack of concentration, etc. His family physician says there is nothing the matter with him. "Just a plain case of nerves, Mr. Mason."

The truth of the matter is that Mr. Mason is suffering from malnutrition. Mr. Mason is an educated man, interested in health problems. He has been following with enthusiasm the recent advances in nutrition. He has changed his diet to conform with the newer findings in this field. As a matter of fact, his diet would, off-hand, be considered complete, adequate and up-to-date, quantatively and qualitatively. Unfortunately all his foods, including fruits and vegetables, are thoroughly cooked. He uses no raw foods in his diet.

Heat partially destroys the nutritive value of food. Proteins, fats and carbohydrates undergo chemical changes as a result of the application of heat. Some of the vitamins are partially or completely destroyed by heat. It is for these reasons that we must include raw food, such as fruits and vegetables, in order to overcome the deleterious effects of heat. A diet in which all the food preparations are cooked cannot maintain the individual in optimal health. The Eskimo has to use raw meat, but we can use raw fruits and vegetables instead.

Your Noon-Day Meal Today

Your noon meal today has been modified in order to conform to our present knowledge of nutrition. We have substituted liver for muscle meat. The visceral organs, liver, heart, kidney, lungs, are two or three times as rich in iron as the ordinary cuts of meat. The visceral organs are also very much richer in vitamins than the

muscle cuts of meat which we are accustomed to consume. The visceral type of meat is also easier to digest. The animal parts that are most nutritious to man are those that have to bear the brunt of biologic activity and that are vital to the very existence of the whole organism.

We have substituted whole-wheat bread for white bread. White bread may be good to look at, but we are not interested in the nutritionally ornamental, but in the nutritionally useful. White bread is denatured bread, having been robbed of practically all of its vitamins and most of its mineral content.

You notice in your diet the humble bean. The legumes (beans, peas and lentils) have many unsung virtues. Among the vegetables they stand the highest in iron. They also constitute a rich source of calcium, phosphorus, residue or roughage and vitamin B.

Leafy vegetables and dairy products are very conspicuous in the menu. They form what nutritionists call "protective foods." They supplement the deficiencies in the rest of the diet and give to the diet adequacy and balance.

The plebian cabbage is worthy of greater respect than it usually receives. Listen to some of its virtues: It is inexpensive; it is abundant in residue or roughage, and it is one of the great sources of vitamins. Historians have never given the cabbage its rightful place in civilization.

Sauerkraut is a staple article of food in Germany, Austria, Bulgaria, Poland and Russia. Many of the great battles of modern times have been fought on a ration of sauerkraut and black bread. Many a European novelist, poet or artist ate his sauerkraut in the intervals between writing, painting or sculpturing, while patiently waiting for the world to discover his existence.

Have you noticed that little dab of cheese? Cheese is a superior protein. Swiss cheese and brick cheese are very rich in calcium, although cottage cheese is comparatively a very poor source of this important element.

Don't forget your glass of buttermilk. You need it for its acid content, for its mineral content, and especially for its vitamin content, since it is rich in vitamin B. Metchnikoff thought a great deal of buttermilk. He thought it could prolong life, but it takes more than buttermilk to increase the span of life.

The salt used in the preparation of this luncheon supplies iodine sufficent for your daily needs.

You observe that coffee has been left out of the menu. Coffee is not harmful to us, except to a few people who possess a highly sensitive nervous system. The harm that may come from the ordinary drinking of coffee may be due as much to the tannin it contains as to the caffein. Tannin is an astringent. It puckers up the mucous membrane or lining of the esophagus, stomach and intestines. It causes shrinkage of the secreting cells, thereby interfering with the production and secretion of digestive fluids. It may be stated, furthermore, that the tannin in coffee and tea precipitates the enzymes in the gastro-intestinal tract which are responsible for digestion. An enzyme precipitated is like a soldier knocked senseless on a battle-field; he is no good for further action.

A well-balanced diet carries foods that are, in themselves, stimulating. But our diet is not well-balanced. It is, therefore, depressing instead of exhilarating. We are forced to use, at the end of our meal, an artificial stimulant like coffee, in order to overcome the languid, drowsy and stuporous effects of our ill-chosen or indifferently chosen foods.

Although we have touched upon individual foods, we should like to point out that nutrition should be considered in the ensemble. Every engineer knows that he cannot get the greatest efficiency and maximum speed out of his machine until he supplies his firebox with adequate quantities of the proper grade of coal, until he uses, in sufficient amounts, the right type of lubricating oil and the proper sort of water. A diet which fails even slightly of being qualitatively or quantitatively correct, may, in the long run, produce the disease that marks one for an unhappy life or for an early grave. The degenerative diseases with which man is afflicted usually creep in through the cumulative effects of successive slight irritations or through the continued operations of apparently insignificant factors.

With reference to nutrition, many of us fail to see the forest because we are engrossed in noting the individual trees. Some of the slogans of food concerns or even of public health demonstrators are illustrative: "Eat more bread"; "drink more milk"; "buy more raisins"; "consume more apples"; "use more wheat"; "try more bran". The "eat more" campaign focusses its attention upon one particular food or type of food. Eating more of one food or of several foods does not guarantee that the diet would thereby be rendered adequate in all respects.

In selecting your diet, remember what Sir William Osler said: "More people die by the knife and fork than by the sword!"

To make the story short, we have provided you with an adequate meal; that is, a meal containing the following in the proper proportions:

1. Raw fresh food.
2. Superior proteins.
3. Superior fats.
4. Carbohydrate.
5. Mineral matter.
6. Vitamins.
7. Water.

Two more things are necessary to make the diet adequate: Oxygen and sunlight. As for oxygen, you need have no worry. The very fact that you are reading this sentence indicates that you have enough.

As for sunlight, that's up to you. Do not neglect it. Lack of sunlight brings about a vague feeling of ill-being, a feeling of indifference to effort. The sunless individual may be subject to gastrointestinal disturbances, his complexion is sallow and his skin easily attacked by bacteria and subject to all kinds of pathologic lesions. "Spring fever" comes at the end of winter, after a prolonged period of insufficient exposure to sunlight. The "under-the-weather" feeling is also sometimess attributed to lack of contact with the rays of the sun.

To maintain your health, which includes your moral and spiritual poise, do not neglect your three friends, rest, diet, and sunlight. And when you are sick, do not fail to call into consultation the three greatest physicians of modern times, Dr. Quiet, Dr. Diet and Dr. Sun Light.

From time immemorial the dinner hour has been used, not only for recharging the body, but the mind and soul as well. Remember that the dinner hour is an hour for social and intellectual contacts. Converse if you please, but let your thoughts and conversation carry you up into the worth-while things of life, its vision and its grandeur. Park your personal worries and distractions at the door. Enter the dining room animated and vivified.

The Published Comments of the Diners

In the afternoon of the day of the luncheon, the Omaha *Bee-News* called up some of the men and obtained comments. These comments appeared in that paper the next day. The discussion in the paper was headed by the following lines:

"Buttermilk, black bread,
Carrots raw—
Rations for the biped
Of Omaha.

Liver, cabbage, orange juice,
Pieces of cheese,
Live long? What's the use,
Eating these?"

"No great call for raw foods was heard in Omaha kitchens Tuesday as the result of a health meal served by Dr. Victor E. Levine, Creighton nutritionist, to members of the Omaha Professional Men's Club, Monday, at the Fontenelle. But few converts to carrots and cheese were found among those who partook.

"The black bread and buttermilk did not take a sudden rise. But several club members declared in favor of occasional meals featuring the zest-giving vitamins and minerals, which may be deficient in the usual diet.

"The question: 'How did you like your luncheon?' put by the Omaha *Bee-News* was answered with varying degrees of enthusiasm. Judge A. C. Wakeley commented as follows: 'Seems as though Dr. Levine was trying to prove to us what Sidney Smith used to say: 'Whether life is worth living or not depends a good deal on the liver'. I liked Dr. Levine's meal all right, even the couple of prunes and half an orange. But I must admit I prefer the kind of meal that General Webster gives at the Omaha Club.'

"Raymond Young, attorney, asserted that we have to take what the doctors prescribe without complaint. But he questioned whether the benefits which Dr. Levine claimed would offset the unpleasant character of the meal."

Characterizing the meal as unpleasant brings the nutritionist to a realization of the fact that neither instinct nor appetite is a guide to proper feeding. Often it is taste; most often it is habit. As for taste, the professional cook can so pepper and salt and season an ancient steak as to give it the appearance and flavor of youth. How often do you read in the daily newspaper of people dying of food poisoning resulting from a carefully prepared meal of which they partook at some social dinner or in some very beautiful dining room of a modern hotel!

In the ages beyond history we find the Neanderthal man of some fifty thousand years ago, the reindeer man of some thirty to fifteen thousand years ago and the Neolithic man of some ten thousand years back. These ancient sires no doubt relied completely on instinct for preservation of self and race. Through the thousands of years, into the biblical days and up to the threshold of the industrial revolution, only one hundred years ago, man practically led the same life and ate in the same way. During these long years human intellect was in the process of development. Mind, indeed, made progress, but it was at the great expense of instinct. Among other things, man lost his keen senses of smell, vision and hearing.

When the industrial revolution began to make itself felt in relation to food supply, the human being had lost his instinct for the selection of food, and he began, without question or doubt, to make use of foods lowered in nutritional value by industrial processes or of combinations of foods improperly balanced.

Food Habits

Strange to say, not instinct but habit is the most important factor in appetite. We like foods which we have been accustomed to from early years. We rave about the kind of food that mother used to make. The Irish like their potatoes; the Jews, their gefüllte fish; the Italians, their macaroni; the Scotch, their oatmeal; Mexicans, their *chili con carne;* the Japanese, their rice cakes. In the southern states people like bread made of cornmeal. Those who grow up on cornbread learn to like it. During the Great War the French people could not accustom themselves to eat corn, even under the pressure of lack of food.

Some people find certain kinds of cheese outside the pale of polite society, though other folks rave about them. As a matter of fact it requires special training, not of stomach, but of mind, to be able to eat certain dairy products labelled "cheese". Wines Spaniards care for are not palatable to Italians, and the wines of the Italian strike horror to the polite taste of the Spaniard. Beer is drunk everywhere in Europe, and in America whenever and wherever it is obtainable. When it was first introduced

into Italy from Germany, many Italians found themselves unable to comprehend how any one could drink it and at the same time pretend it was pleasant. The question at one time arose in Rome whether it was permissible to take beer on fast days. The cardinals who tasted it proclaimed that not only did it seem permissible but that it was a mortification to drink it and therefore a proper Lenten exercise.

Personal habit dictates our likes and dislikes with reference to food. Eating too little or too much is also a matter of habit. It is true that some people have an idiosyncrasy towards certain foods — they suffer from food allergy—but by far the greatest number of food dislikes are based entirely upon subjective feelings, which can be overcome by habit and training. Some people have a repugnance for a very nutritious food like eggs. People who come into a tuberculosis sanitarium with an unreasonable dislike for eggs soon learn to like them to the extent of taking daily a half dozen or more.

To show the importance of habit, Eskimo dogs brought up on seal meat will have no other meat, even though they may be suffering from extreme hunger. Europeans who have never eaten bananas or tomatoes find them tasteless and disagreeable. It takes some time before they get up any enthusiasm for the tomato.

Custom is also responsible for a great many dietary peculiarities. In some places the kidney and the liver are eaten with relish. The French like brains and other special parts. What are dainties to some people are repulsive to others. The Anglo-Saxons, as a rule, stick to muscle cuts of meat. McCollum has shown that this type of animal food is, however, by no means so nutritious as the organs like the liver, spleen, lung and other parts. But, as a rule, these are not used, for we are unaccustomed to them.

To the great majority of mankind the idea of eating horseflesh is repulsive, yet numbers of people in various parts of Europe have conquered the initial repugnance and are finding this animal food quite as pleasant as cow's meat. Snail soup is relished in Italy; while down at Marseilles gourmands feast on angle worms and find them appetizing.

Some one has said that man is a bundle of habits and that it is very difficult for him to change habits after they are once formed. This fact is very important in all kinds of education, including health education. The physical salvation of the human race lies in inculcating right ways of living in the young child, in the plastic, habit-forming period. The real obstacle to individual hygiene is the extreme slowness with which habit and custom change. Infinitely more can be accomplished in the direction of building up the health of society by starting with the individual in his infancy and childhood.

I have become convinced that efforts made to popularize the newer principles and practices of hygiene among adults are almost barren of results. This not only holds true of the layman, but also of the physician. The only outstanding exception is the readiness and enthusiasm with which the dental profession is at present making practical and effective use of the newer knowledge of nutrition. In this respect dentists are far ahead of most physicians.

Frozen Professional Assets

Very few physicians have yet awakened to the immense possibilities of nutrition as a factor in the treatment and prevention of disease. We have a large stock of information, not only in nutrition, but in other fields relative to the maintenance of health. This is to be found in books, in monographs, in journals and in research laboratories. This source of information lies untouched. As Dr. Lapp once said: "We are using only the parings of the apple of knowledge, but not the core." The gap between knowledge and application is, indeed, very wide.

Dr. William H. Welch deplores indifference to application of valuable knowledge in the following terms:

"When a Koch discovers the tubercle bacilli, a Banting discovers insulin for the relief of diabetes, a von Behring an antitoxin for the cure of diphtheria or a Park demonstrates the value of the toxin-antitoxin for the prevention of diphtheria, the world draws a long breath as if to say to itself, 'Now we are rid of that terror which has haunted the human race for centuries.' It then straightway forgets and goes on its way, comfortably assuming that, of course, the great discovery or invention is being carried into effect.

"The actual facts are quite different. A few people—those of unusual initiative or ample wealth or who happen to be under the care of exceptionally alert physicians or within the jurisdiction of exceptionally competent health officers—receive the benefits of the new discoveries;

but the great mass of the human race goes on as before, and the death rate from these diseases is increased slowly and over long periods of time.

"In fact, the health field has a wonderfully ineffective distribution service, as compared with the laboratories of the world. We know how to do a lot of things which we do not do, or do on a wretchedly small scale. Few of the great discoveries of preventive medicine, except the prevention of yellow fever, are anywhere nearly fully applied."

We do not, however, have to refer to technical discoveries in the field of medical science to illustrate the ever-widening gap between facts and their application to individual and race improvement. Even the common sense knowledge of exercise, sleep, sunlight, fresh air and food is not yet either fully or well applied.

The great dangers in the medical profession arise from within and not from without. It is the pity and tragedy of modern medical practice that the physician has much knowledge at his command which he does not use. The great advances in preventive medicine, and even in treatment of disease, are not being handed down to the man, woman and child in the home, in the school, in the office and in the factory. An industrial invention that promises profits reaches the public in a few years or even in a few months. But a discovery which prevents a disease and saves lives and suffering takes years and years before it is put into common practice.

The members of the medical profession cannot hold the esteem of the public through mere words or through past glories, but through present and future action and through setting an example of right living. The great physician of the future will be the great teacher. The man on the street cannot have great respect for the art and science of medicine, when many of its devotees do not grasp the real meaning of the newer discoveries in the field of treatment and prevention, and when so many of them neglect the simple rules of health, to such an extent that they fall as easy a prey to disease and meet as premature a death as do many of their brethren who have no medical wisdom or training.

In conclusion we may state that the world is making remarkable progress in art, science and industry, but very slow progress in matters pertaining to sociology or hygiene. The chief difficulty is, not lack of knowledge, but a deficiency and an indifference in applying the vast treasures already made available by experimentation and observation. We have sufficient knowledge of health to cut down very materially the present incidence of disease and the prevailing death rate. That this does not happen is due to the fact that human inertia prevents change in health habits. The result is that the gap between biologic knowledge and its application is widening with each new discovery. Year by year the human being tends towards omnipotence over the forces of nature, remaining an irrational primitive only in the lack of command over himself.

Doctors and Advertising

If I were in business I should be an enthusiastic advertiser, but I believe that in the practice of medicine and surgery, where we are dealing with human life, we must be satisfied to advance our volume of practice upon our record rather than upon our claims. If doctors were permitted the ethical privilege of advertising . . . there would be a natural tendency to make broad claims, and such practice would soon bring disgrace upon the profession as a whole.

Medical science seeks results, not applause.

I cannot believe that advertising would be healthful fertilization for our character of service.—DR. J. H. KELLOGG, *Battle Creek Sanitarium, in "Printer's Ink", July 5, 1928.*

THE SEMINAR

CONDUCTED BY
MAX THOREK, M.D. (*Surgery*)
GEORGE B. LAKE, M.D. (*Medicine*)

[NOTE: Our readers are cordially invited to submit fully worked up problems to the *Seminar* and to take part in the discussion of any or all problems submitted.

Discussions should reach this office *not later* than the 1st of the month following the appearance of the problem.

Address all communications intended for this department to *The Seminar*, care CLINICAL MEDICINE AND SURGERY, North Chicago, Ill.]

PROBLEM NO. 3 (SURGICAL)

(See CLIN. MED. AND SURG., Feb., 1929, p. 112)

Recapitulation: A young, robust man, normal in every other way, sustained a comminuted fracture of the left clavicle, the outer fragment being split longitudinally and the two parts rather widely separated at their inner ends.

Requirement: Outline the management of such a case.

DISCUSSION BY DR. D. A. HERRON, ALTA, IOWA

I suppose every general practitioner treats clavicle fracture cases. Also I assume, from 20 years experience, that we all usually get good functional results with a large variety of dressings. Moreover, we all usually see excessive callus and some anatomic deformity at the end of treatment.

The first necessity is functional efficiency; second, I rate the comfort of the patient during treatment; and third, anatomic appearance. A woman might reverse the importance of the second and third points, for cosmetic reasons.

I prefer a "T" splint, posteriorly, with a belt at the lower end about the waist, and a collar around *both* shoulders, through the axillae and around the front of shoulder and outer fragment of the clavicle. The De Puy Co. and several others provide such splints ready-made, and they are convenient; or they can be improvised.

I bind the injured arm, with the elbow at a right angle, to the thorax, loosely enough to be comfortable. Once only I wired the ends. Results have been satisfactory.

DISCUSSION BY DR. J. R. STURRE, MINNEAPOLIS, MINN.

My treatment of this clavicle would be as follows:

I would put the patient to bed, with his left arm hanging out over the side, with a rest for the elbow, a little lower than the normal position, and would apply a sand bag over the site of fracture. This might reduce the ends of the bone; at least it would not do any harm for a 48-hour trial. If the fracture then assumed fairly good approximation I should keep the man in this position until some callus formed.

If the bones did not approximate into better position than that shown in the roentgenogram, I should apply a Valentine bandage or use a splint such as the De Puy clavicle brace and attempt to pull the shoulder back and up, so as to bring the ends into fairly good line, and then apply a pressure pad above the fracture to immobilize the upper fragment and hold it down. These two methods have a chance to be successful.

If, after a week of effort, the fracture is not reduced, I prefer open operation. In this case I should tie a strand of 20-day chromic catgut around the outer fragment to bring its two pieces into position; then

tie 20-day chromic gut about the distal end of the inner fragment; then run a strand of the same gut under the catgut around the ends of each bone and tie it down *tight*. This would probably approximate and hold the fragments in position.

If the catgut slipped off the ends, making it a bunglesome job, I should drill a hole through the ends of each fragment, lace a double strand of 20-day chromic gut through the drill-holes and tie the fragments in position. This should be done under *local* anesthesia to avoid the probable exertion following a general anesthetic.

The latter method is preferable, in my opinion, but it might not be applicable to all occasions. However, this man is a hospital patient and I should operate upon him within a week if splints and dressings, especially the Valentine bandage, did not reduce the fracture. There will be less callus, quicker union, shorter convalescence and less trouble with operation than by any other method.

I should not remove the clavicle at his age, even though he could get along very well without it. I think a good result with the bone remaining is, here, just as easy and better.

(*Note*: I have just discharged such a case, in a man weighing 260 pounds, 79 years old. The result was excellent and the bone was healed with little callus or deformity, 3 weeks after operation. I operated upon him 12 days after his accident. No reduction had been attempted and the proximal end was up in his neck but reduced nicely when the bone was exposed. I drilled a hole in each end and tied the ends together. The patient certainly was more comfortable at once. Three days after the operation he was up and carried the arm in a sling. Only a surgical dressing was used at the shoulder).

Discussion by Dr. George Acheson, St. Martins, N. B., Canada

In nearly all cases of fractured clavicle, the prevention of deformity is of secondary importance to restoration of the normal function of the shoulder joint; so that accurate apposition of the fragments and their retention in perfect anatomic conformation need not unduly worry the surgeon, unless to satisfy some meticulous young woman who is concerned about the cosmetic effect of the accident.

In the case described there is considerable displacement and it will scarcely be possible, except by open operation, to accomplish and maintain complete reduction. Exposure of the broken bone, however, is not to be recommended for the reason above referred to, since there is no doubt that a good functional result can be obtained, even though there may remain some deformity.

The sternal fragment is displaced upwards and outwards by the sterno-cleido-mastoid muscle, and the distal fragments downwards and inwards by the weight of the arm and the action of the pectoralis major, but it should be possible to bring these fragments into fairly good alignment with the sternal end. To do so, it will be necessary to raise the shoulder and pull it backwards; but the chief difficulty will be to maintain the reduction. The shoulder may be pulled back by standing behind the patient, with a hand on each shoulder, and the knee between the scapulae, and pulling the shoulders back with sufficient force to straighten out the inner fragment, and overcome the overlapping. This may be maintained by a stout bandage, passed in figure-of-eight over both shoulders and under the axillae, crossing ir. the middle of the back. The whole arm is then to be raised so as to bring the outer end of the bone into alignment and apposition, and supported by a firm sling under the elbow, crossing the opposite shoulder.

Massage and passive movements should be commenced not later than the fourth day and continued daily, removing only the sling and taking great care for a week not to allow the shoulder to drop downwards or forwards, though the arm may be slightly abducted. After two weeks all dressing may be removed, though it will be well to carry the arm in a sling when up and about. Daily massage and passive movement should be carried out for another week, to be supplemented by active movements, gradually increasing until normal function is restored.

Discussion by Dr. J. R. Smith Warsaw, Mo.

In this case I should, by careful examination, find the exact position needed to place the fractured ends in closest possible apposition, by bringing the forearm across the body and elevating or lowernig the elbow and shoulder of the affected side, to cause the outer fragment to return to its normal position.

I should then immobilize the clavicle, with a pad over the point of fracture, held in place by a 3-inch strap of adhesive tape, fastened over the scapula, drawn snugly over the pad and extended down to the sixth rib.

With a broad bandage around the body, I should secure the arm in a fixed position, with the forearm transversely across or obliquely up to the opposite shoulder, as might be required to place the fracture ends at perfect rest and in direct contact, with the least degree of deformity.

Added to this I always give an effervescent saline laxative, to be taken every morning, and a 2-grain tablet of calcium sulphide every 4 hours (4 doses a day), for the first 10 days, to supply any possible deficiency of calcium in the system, also to reduce any tendency to suppuration, in case of any degree of contusion. The silver splint (open operation) would, no doubt, be a much more scientific and modern treatment, but those who lack the technic and experience in this work are safer to stick to the older, recognized methods.

Discussion by Dr. Chas. E. B. Flagg, Vancouver, Wash.

The shoulder should be raised, from the elbow, and pulled backward. If the fracture is thereby reduced, fixation is maintained by a transdorsal splint, with straps around the shoulders and mid-dorsal support from a pelvic belt (such a splint is made by De Puy, or can be readily improvised) and a sling supporting the elbow from the opposite shoulder.

If the fragments are not in fairly good apposition, they should be tied together transversely where they are split and sutured longitudinally, through a hole in each extremity of the fracture, by 20-day chromic catgut, No. 3.

In 100 cases, I have treated two by open operation, using a silver dowel in one and silver wire suture in the other. The results in both were good.

I believe this case requires open operation, but attempted reduction will indicate appropriate treatment.

The treatment of fractured clavicle has become as nearly standardized as it is possible to standardize the treatment of any fracture.

Discussion by Dr. George A. Bendlage, Long Beach, Calif.

Fracture of the clavicle is one of the four most common fractures of the skeletal system. In the midthird it is usually due to indirect violence, while in the outer thirds it is due to direct violence. In the average fracture of the clavicle, there is little danger of injury to the underlying vessels or to the brachial plexus, because of the thick periosteum and the subclavius muscle.

This type of fracture is rare, and most skillful manipulation should be exercised should reduction be attempted, as there is danger of injury to the brachial plexus in this type. In this case, I believe there is great danger if reduction should be attempted by manipulation.

My suggestion is that it is safer to do an open reduction of the clavicle. This should be done in the usual manner, bringing the outer split fragments together with one suture of chromic catgut. The completely separated portions should be carefully brought into line and sutured in place by catgut also. The periosteum should then be overlapped about the bone and sutured in place as reinforcement. A modified Sayre dressing should be applied. After-treatment as is usually done.

Solution by Dr. Max Thorek, Chicago

It pleases me to find the lively discussion of the problem I presented, anent the fractured clavicle.

To refresh your recollection, I ask you to look at the radiographic illustration I have submitted to you, and notice how splintered the clavicle is, and the problem it presents to the attending surgeon.

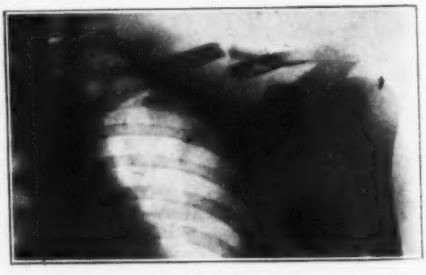


Fig. 1

Dr. D. A. Herron and Dr. J. R. Sturre discuss the case splendidly and lay particular emphasis on the conservative treatment. We all should, of course, strive for conservatism in all cases and resort to the knife only as a last resource. However, in this case, reduction under gas and the application of a number of splints proved

of absolutely no avail. I much fear that the suggestions offered by Dr. Herron would not be so successful in this instance as we should like them to be.

Just look at the separation of the opposing fragments and notice, particularly, the splintering of the outer fragment, with the deflection of its component parts, and you will agree, at once, that the problem is not a simple one. Fortunately this patient was a male. It would have been much worse had the fracture occurred in a female, for we all know how sensitive most modern female patients are to noticeable callus deformities which would inevitably result from a conservative procedure in this case. Of course, the results Dr. Herron reports in his own cases are most encouraging and I want to congratulate him upon his success.

General Acheson states, in his usually thorough discussion, "The prevention of deformity is of secondary importance to restoration of the normal function of the shoulder joint". There is a great deal of truth in his statement. He adds, however, "Unless to satisfy some meticulous young woman who is concerned about the cosmetic affect of the accident". The fact remains that most women would be "meticulous" if apprized of the true state of affairs—that a rather large, deforming protuberance would result from the fracture. I believe, under these circumstances, that most of them would prefer to submit to a radical method to avoid deformity. Of course that depends upon the psychology of the woman. If she is of the working class, the unsightly projection incident to the deformity would not cut much figure, but, if she is a society woman and would necessarily be deprived of the pleasure of wearing low-necked gowns and the attendance at social functions, the story would be a different one. She would, I believe, look for the surgeon who would offer her no deformity, if such a result could be definitely promised.

I want to say, however, that the method suggested by our good friend Acheson was followed, with the result that the displacement was just as bad as before. I fully agree with him in regard to his form of conservative treatment, but the passive motion and massage suggested is, I fear, somewhat premature. I should be rather reluctant, in this case, to start massage and passive movements as early as four days after reduction. I fail to see how one could maintain approximation of the reduced fragments (if such reduction were successfully accomplished) and continue, at the same time, to manipulate the affected area by massage and passive movements. A man must be extraordinary and highly trained to accomplish this. I have no doubt that Dr. Acheson speaks from experience and he must have had good results. I must state however that I should fear to undertake passive manipulation as at the stage of the game he suggested.

I like what Dr. J. R. Smith said when he insists upon conservatism first and operation second. Particularly am I pleased to note that he says, "Those who lack the technique and experience in this work are safer to stick to the older, recognized methods". There is a wealth of truth in this statement. I feel that the patient would be much safer in the hands of the conservative man who knows his limitations, than in the hands of the surgeon who operates on every case, irrespective of whether it is wise or not. We often find such a sad state of affairs, to be sure, but as time goes on, only highly experienced men, it is hoped, will wield the knife and safeguard the interests and lives of those entrusted to them. There are many men fully competent to take care of almost any surgical situation, if their brother practitioners would recognize their own limitations and ask their aid.

Our friends Dr. Chas. E. B. Flagg, Dr. George A. Bendlage and Dr. Sturre are, I notice in favor of open reduction. I am grateful to Dr. Bendlage for calling attention to the fact that there is danger of injury to the brachial plexus by haphazard manipulation, and that most skillful handling should be exercised, should reduction be attempted. He hit the nail square on the head by making that statement.

Now, Gentlemen, this delightful discussion of our problem having received your views, permit me to state what has been done and what the results were, in this particular instance.

Reduction was attempted, gently, and under the effect of complete relaxation, under anesthesia. Result; failure. In order to obviate an operation, another attempt was made, by a different method of reduction. Result; failure again.

I placed the situation squarely before the patient, told him what he might expect from conservative treatment and what he

might hope for from radical intervention, and he decided in favor of the latter.

I placed the patient under a general anesthetic (while most of my surgery of the neck, particularly all my goitre cases, are always operated upon under local anesthesia, I preferred, in this case, to use general anesthesia, the reason for this being that the utmost relaxation and freedom from movement was desired), and the fragments were exposed, through an incision, carefully planned, in the long axis of the collar bone. Perfect hemostatis was secured. The tissues were handled with extreme gentleness.

The fragments were found projecting into the adjacent tissues, as depicted by the x-ray, (see Fig. 1). The fascial and muscular elements interposed between the fragments were gently cleared away. The ends of the fragments were freshened with rongeur forceps, brought into proper apposition and fastened with silver wire. A similar procedure was resorted to in approximating both the external and internal fragments. The structures were then carefully dried; the skin structures were properly united, bandages were put on and the shoulder joint was immobilized by proper dressings. While the patient was still under the anesthetic, an x-ray picture was taken to show the appearance of the field of operation. This is shown in Fig. 2. You will observe that the position is as near the ideal as one could expect.

Fig. 2

The thing most to be hoped for was that there would be no complications, and that sufficient callus of the proper type would form.

A check-up, ten days later, showed that some callus was beginning to form, and after another week I ordered the patient back to the operating room, infiltrated a small area with novocaine (procaine), one-half percent, and removed the silver wires that were holding the fragments in apposition.

Two weeks later another roentgenogram was taken and it was found that the fragments had held, that callus was uniting and that the result was as nearly ideal as possible.

I am submitting to you the result (Fig. 3) when the patient left the hospital. At

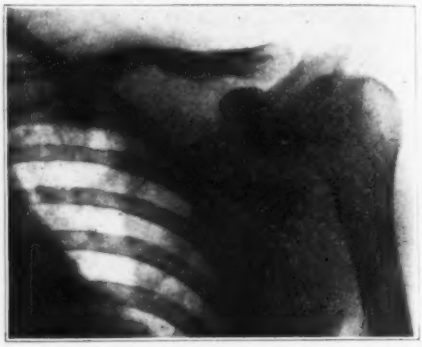


Fig. 3

this stage manipulations were commenced, as suggested by General Acheson, and at the present writing the patient has, of course, completely recovered, is back at work and is a very happy individual.

Problem No. 5 (Surgical)

Submitted by Dr. Max Thorek, Chicago

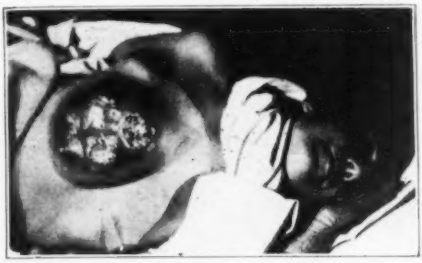
This patient is a woman, 43 years of age, white, a housewife by occupation. Nothing of importance in her family history.

She noticed a swelling in the right breast in September, 1927. This became gradually larger, finally breaking through the skin in July, 1928, since which time it has been discharging and rapidly breaking down. Her normal weight is 118 pounds, but in September, 1928, it went down to 100.

By October, of the same year, the swelling had extended upwards, involving the axilla, the neck and the right side of the face.

She had been treated by a number of physicians, palliatively, of course. Then she fell into the hands of some of our friends, the Christian Scientists, and the result was that she was brought to me in the condition shown in the appended picture. (Fig. 4).

There was no cancer in the family history.



She was admitted to the American Hospital on the fifth of December, 1928. Her temperature was 99.8°F.; pulse 96; and blood pressure, 108 systolic, 62 diastolic.

Her head and scalp were negative. The pupils reacted equally to light. She wore an upper plate in her mouth. The thyroid was palpable, small and symmetric. The breath sounds, over the right lung. posterially, were distant—more so than on the left side. There were no rales and no area of bronchial breathing. The heart was negative.

The right breast showed a large tumor, with a necrotic mass presenting three crater-like areas, from which a sero-sanguineous discharge issued. There was a mass about the size of a large lemon, under the skin, between the breast and the anterior axillary fold, where it meets the right arm. The glands of the axilla were palpable and felt hard. Examination of the abdomen was negative; genitourinary tract, negative. There was edema in the lower extremities. Her Wassermann test was negative.

Uranalysis showed nothing of importance, except a slight trace of albumin. The blood picture showed: Hemoglobin, 65 percent; coagulation time, 4 minutes; erythrocytes, 4,160,000; leukocytes, 11,900, with small and large lymphocytes 6, large mononuclears 2, polymorphonuclear neutrophiles, 92.

Requirement: Suppose this patient is brought to you for treatment and you find her in the condition described, what course would you pursue?

Science and Art in Surgery

Just as we recognize that our only hope of ever knowing the laws of life and rules upon which it works rests on science, so do we recognize that medicine and surgery rest on science. The solid foundation of surgery is science, and our only regret always has been that the connection between practical surgery and exact science is as yet imperfect; and indeed surgery is often based on unstable, inconstant, and variable observations and data. If the truth must be told, the practice of medicine and, in a still greater degree, the practice of surgery, are arts. These vocations, while seeking for firm scientific foundation, are far from having attained this object, at the present time.

We know that we are becoming more and more successful in the prevention and cure of disease, as we become better acquainted with the laws of Nature. Our hope of still further advance rests upon the progress of science; and as science discloses more of the laws and rules of Nature, we shall become more scientific physicians and surgeons, and our fight against disease will become more and more successful.

—*Bernay's "Golden Rules of Surgery."*

CLINICAL NOTES AND PRACTICAL SUGGESTIONS

Living a Healthy Life

BACK in the dark ages when epidemics and pestilence were regular occurrences, it was considered good evidence of normal health if one managed to avoid death. People would expose themselves and their children to mild cases, in the hope that they might contract a mild form of a disease. It never occurred to those people that they might entirely avoid pestilence; their only thought was not to die of it.

Our struggle in this age is, not only to prevent infections and contagious diseases, but to enjoy perfect health. A healthy body is a positive asset. It is one of the foundation stones, not only for preventing disease, but for making possible the fullest development of the individual's capacities.

It is not necessary to stress the importance of health. It means the difference between dreading the day's work—fearing you won't be able to drag through it—or, on the other hand, welcoming whatever tasks the day may bring, eager to contend with them, confident of victory.

In order to keep in this condition and fit to meet life every day, there is no more sure way than through the periodic health examination. This examination means a thorough going over, by a qualified physician, at regular intervals of from six months to one year.

Not only is a thorough physical examination made from head to foot, but a complete history is also obtained relative to the person's past life, past illnesses and daily habits. The complete history, of course, is necessary for only the first examination, the physician keeping the record on file for subsequent examinations. This report should be given by the client with frankness and without any secret evasion of mind or mental reservation. He may be asked questions which, in his opinion, may be trivial in character, but which, to the physician, may point the way toward the discovery of some formidable foe to his future health. In the history of the past life, such apparently trivial questions as, "Do you travel?" "Where have you spent your vacations during the past years?" while, perhaps, out of place, to the mind of the applicant, may be the means of discovering a forgotten attack of illness, which may never have been completely cured and may even now point the way to the discovery of a defect.

It is the little things in life that count, and only by taking into consideration all of the little points in the patient's physiologic and psychologic history can the examiner discover potential disease causes. This does not necessarily mean that the physician can lay his finger on the cause of every pain or ache to which the human body is heir. A great many people are inclined to "make a mountain out of a mole hill" and when a thorough history and careful examination bring to light some physical defect or other, they immediately attempt to make invalids of themeselves. They associate every slight indisposition to which they may have been subject with the findings of the examination.

It must be borne in mind that no reputable physician desires to make an invalid of any person applying for a physical examination. He is pleased when he can inform his health client that he finds nothing that would in any way curtail his normal life expectancy, rather than to tell him that he is doomed because of some irreparable defect.

Cooperation on the part of the patient is necessary in the periodic health exam-

ination. The instructions and advice given after the examination has been completed should be followed. This advice the physician can only *give*, it must be followed by the client, even though the recommendations require a disruption of some life-long habits and a change in the mode of living.

The trend of modern medical practice is more and more strongly toward preventive medicine and the prolongation of human life. One of the greatest aids we have at hand for the prolongation of life, or the fulfilling of the normal life expectancy, is just this periodic health examination.

There are many serious diseases which cannot be cured, but the potential causes of which can easily be prevented if eliminated early. These potential causes of diseases, usually ignored by the uninformed layman, are detected by the physician in the health examination.

It was a source of great surprise to everyone, when the young men of this country were examined for the draft in 1917 and 1918, to find that almost half of these young men, who were considered the cream of our country's manhood, were rejected on account of physical defects.

The majority of us, when we feel perfectly well, are careless. A man of business will absolutely insist on a yearly inventory—he will know to a dollar the financial condition of his affairs; but that same man will drift along year after year, straining his heart, overloading his kidneys, reducing his vitality, until something breaks and he is faced with that greatest of all catastrophies, the loss of his health!

All of us are shocked, from time to time, by reading in the newspapers that some one whom we knew well—someone at or beyond middle life, whom we supposed to be in good health—has died suddenly or after a few hours' illness of "acute indigestion", heart disease or apoplexy.

The individual had apparently been well until illness came; but such was not the case. Chronic disease had long been slowly progressing, and was not discovered because it had produced few or no symptoms and, therefore, a physician had not been consulted.

There is one method of early detection and prevention; namely, to have a complete physical examination every year, from childhood on and during apparent perfect health, by an experienced physician. Then the early development of disease may be detected and measures taken to prevent its extension.

To avoid looking for impairment, lest we find it, is certainly a naive philosophy. Will the "scare" be less when the actual breakdown comes? It will then be a scare without hope, as against a scare with hope if we locate the trouble in time.

Some people think that the only thing they can get from a physician is a prescription for some medicine. The most desirable relationship between patient and physician does not relate to specific drugs or medical procedures that correct disease conditions; it is a relationship wherein the patient looks to the doctor for continuous, progressive guidance in the manner of living.

The best thing that the individual can get from the physician is instruction in the ways of being well. But it is only through an intimate knowledge of the patient's physical condition, gained by frequent examinations, that the physician can take the individual's health out of the realm of guess work and put it on the basis of scientific authority.

EDMUND D. LEVISOHN, M.D
Chicago, Ill.

American Gold Colloids Pure

IN REPLY to your recent inquiry I hasten to advise you that the impure gold colloid I used in my studies (see CLIN. MED. & SURG., Jan., 1929, page 38), as a check against an assumed pure colloid, was not one bearing any American trade name, but was a solution of gold purposely contaminated with gold chloride and potassium gold chloride, made by the writer for the reason that he knew of *no* impure or contaminated gold colloid on the market.

G. E. JORGENSON, M.D.
Hollywood, Calif.

Face Mask for Diathermy

MY ARTICLE, "Reactivating the Aging Female Organism by Endocrine Support" in the number of "CLINICAL MEDICINE AND SURGERY for July, 1928, mentioned a cosmetic face treatment by way of an individual mask, used as the active electrode for diathermy application.

My description of this treatment, or bet-

ter of the origin of this treatment, has been misunderstood in certain quarters.

The first mask for electric treatment of the face was devised by Lammers & Bennet, of California, in 1908. They used a solid metal mask, made after an individual face mould.

In 1925, Erwin Last, of Vienna, assistant to Professor Eugene Steinach, constructed an individual mask with plaster of Paris bandages, which he lined with tin foil, in order to use it for diathermy treatments of the face. He applied the same principle that French physicians used already during the war: they advised plaster of Paris moulds, lined with tin foil, for all uneven parts of the body. (Bucky described their method in his textbook on diathermy in 1921).

Last's mask is the one which I described in my articles as unsatisfactory (in my experience) for its purpose, on account of its flexibility and therefore lack of perfect contact.

This perfect contact (with other advantages as well) was obtained by using the newly constructed, rigid mask of an American experimenter. With this latest device the good results were achieved, which I had occasion to observe and which I briefly described in my paper.

HARRY BENJAMIN, M.D.
New York City.

Acute Septic Mastitis
(A Case Report)

I AM well aware of the lack of statistical importance of an isolated case. This one, however, is so unusual, and the result obtained so clearly due to the treatment instituted, that I feel it should be reported, that others may have the opportunity to try it if they wish.

Mrs. M., a primipara, 18 years of age, was delivered in April, 1928, of a normal infant. No instruments were used.

On the eighth day after the baby was born, I saw her in consultation. She had, that morning, shown a temperature of 103°F. There was some odor to the lochia and tenderness over the uterus. The condition was apparently entirely relieved by a hot uterine douche of Dakin's solution (chloramine). Two days later, however, the temperature rose again, this time to 104°F. The pulse was 120. There was a terrific headache and both breasts had begun to swell and become hard (the right one more noticibly) and exquisitely tender. The picture was typical of a beginning, septic, bilateral mastitis.

Having had a very large and favorable experience in many different types of acute infection with a combination of drugs known as Intravenous Creosote Compound, the use of which has already been reported in this Journal, regarding its action in pneumonia and influenza (see CLIN. MED., June, 1926, p. 403), I advised an injection of this solution*.

An interesting and immediate result of this was the sudden cessation of the pain in the head, which occurred before the injection was finished. The breasts were bandaged tightly.

Six hours later I saw her again, this time bringing with me one of the leading obstetricians of Boston. Her condition by this time had much improved. The temperature had dropped to 102°; the pulse to 90; and the pain had almost ceased.

Although the whole process seemed to be ameliorating, it was decided to employ diathermy through both breasts, with the idea of raising the temperature sufficiently to destroy the invading bacteria. With a portable machine, the breasts securely clamped between a pair of large "Vacups", which held them tightly together, a current of 2000 milliamperes was given for 30 minutes. At the end of that time the patient was sweating profusely and all the pain had gone from the breasts. She was given an alcohol rub, the breasts bandaged and packed in ice, and she slept the rest of the night.

The following morning I saw her at 8:00 A.M. Both temperature and pulse were normal. The swelling had entirely gone from the breasts, as well as the tenderness.

The ice dressing was continued for 24 hours, and as the breasts still remained apparently normal, this was discontinued and the baby was allowed to nurse. There was not the slightest return of the condition, the patient shortly afterwards was allowed

*The solution is prepared in the following manner: In a sterile, 2-ounce bottle is placed 60 cc. of sterile isotonic salt solution, and in this is dissolved 1.25 Gms. each of soluble ferric phosphate and sodium salicylate. I boil this over a water bath for 15 minutes, then add 1 cc. of saturated solution of creosote in lime water. This is *not* boiled. The bottle is corked with a sterile cork and the solution is ready for use. The dose is from 3 to 6 cc., intravenously, according to the size and vigor of the patient and the severity of the attack.

to sit up, and made a perfecly normal convalesence.

To the three medical men who saw this, the result obtained seemed miraculous for, according to any experience we had previously had, an abscess in each breast, with all the attending danger and misery, seemed inevitable.

I firmly believe that this result, if the same treatment be used promptly, can be duplicated in any similar cases.

FRANCIS E. PARK, M.D.

Boston, Mass.

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[It is to be regretted that no leukocyte counts were made in this case, before and after the administration of the creosote solution. Of course, the substances used *may* have some specific action, but it seems more probable that they simply increased the phagocytic activity of the white blood cells. The diathermy treatment then brought more fresh blood to the affected parts.

This was a pleasing result, but no more so than those being obtained, in a variety of infections, by the men who are stimulating the leukocytes by means of intravenous injections of Metaphen or acriflavine, or intramuscular injections of Lactigen (boiled, fat-free milk), nuclein, succinimide of mercury or, like Ferguson, of 1:3000 hydrochloric acid.

This matter of leukocyte stimulation deserves extensive and careful study, and we hope our readers will do some of this clinical research work and report results. —ED.]

The A.M.A. Must Kill the Newton Bill

IT SEEMS ridiculolus that the American Medical Association, comprising the organized profession of the forty-eight states in the Union, should allow the Children's Bureau in Washington to swagger unchallenged before the Nation, pretending that it is "stimulating" and "educating" the doctors to improve obstetrics and pediatrics, and that any improvement made in either of these branches of medical science in the last seven years is due to the Children's Bureaucrats.

The Newton Bill, better designated the Sheppard-Towner Newton Bill, is before the present session of Congress. The first and best place to stop the Newton Bill, if possible, is in the committee on Interstate and Foreign Commerce. It is our impression that this can be done by a great demand on the part of doctors, medical societies, etc., for a hearing before the bill is reported out. If the committee is convinced that it cannot "get away" with reporting the bill out without adequate hearings, as it did in 1926, and that the doctors and other opponents will "raise Cain" if hearings are held, it is possible that, in the rush of legislation on the remaining days of this session, the bill can be kept in committee.

Medical societies throughout the nation should demand that no permanent legislation turning over the supervision of obstetrics and pediatrics ("care of maternity and infancy") to a lay bureau in the Labor Department in Washington, be reported out of committee until and unless a complete investigation is held and representatives of the medical profession and others are heard fully in opposition.

CHARLES J. WHALEN, M. D.

Chicago, Ill.

Endemic Typhus Fever in the United States

RECENT work by officers of the U. S. Public Health Service, in connection with studies of endemic typhus fever in the United States, is of much interest.

So far as information is available, it seems to indicate that the disease is rather sharply limited to the Atlantic seaboard and the near-by Piedmont sections, going as far north as Boston. It is present in nearly all of the seaports from New York southward and has attained widest distribution in Alabama, Georgia and Florida. On the Gulf coast, while it has been reported from Tampa, Pensacola, Mobile, Galveston, and Houston, there is at present no information regarding its occurrence in Mississippi or in Louisiana. The lower Rio Grande Valley, from Laredo to Mercedes, constitutes an important focus. On the Pacific coast, only Los Angeles has reported a considerable number of cases. While an occasional case has been reported from the interior of the country, that section has been for the most part strikingly free.

This limited geographic distribution in the country at large is confirmed by the more intensive study of the disease in the State of Alabama during the past five years. In this State, the disease is endemic in the towns south and east of Montgomery, but

not to the north and west, except for the few cases which have occurred in the Birmingham district. Considering Montgomery as a primary focus, if the disease were transmitted directly from person to person there is an approximately equal chance that during the past five years it would have spread along any of the six railroad lines or the many highways which enter that city. It would then have had a scattered occurrence and become established at random in the near-by cities and towns in all directions.

This has not occurred. The cases have been grouped almost entirely along the Atlantic Coast Line and its small branches running southeast from Montgomery to Savannah and Jacksonville, along the Louisville & Nashville Railroad running south and slightly west to Mobile, and a branch of this road running to Red Level, Andalusia, Opp, and into Florida. These cases have not been traceable to direct importation from Montgomery. Their origin is local. They may occur at considerable intervals of time, but there are one or two or more cases each year in these towns without traceable association with a previous case and without subsequent secondary or contact cases. The disease is dependent upon undetermined conditions which are present in these towns and absent from those further north in the State.

So far as the human host is concerned, racial composition, habits of life, sanitary, economic, and social status, there are no significant differences apparent in comparing these towns in the southeastern part of the State with towns farther north. Body lice are almost unknown in Alabama; head lice are found occasionally in school children. The infestation with this parasite is generally below 1 percent, and the towns of the southeastern section are not different from those in the north and west in this respect. The population is stable, and there is practically no immigration from Europe or from Mexico.

The limitation of this disease geographically does not seem to be explained satisfactorily on the basis of direct person to person transfer or through the intermediation of the louse. Some agency other than man and his own parasites would appear to be responsble for the preservation of the virus. This agency, be it insect alone, or an insect which feeds upon some host other than man, must be correspondingly limited in its distribution, or at least its capacity for acting as a vector to man must be so limited.

U. S. Public Health Service.

An Adjustable Instrument Stand

THE stand which holds the instruments over the operating table while the surgeon is at work, frequently needs to be adjusted as to height, and when this adjustment is controlled by a set-screw it is difficut to change it without danger of breaking the asepsis.

In St. Barnabas Hospital, Minneapolis, they have such a table, as illustrated, on which the main element of the adjustment is released by a pedal, so that the instrument tray can readily be raised or lowered, even by the scrubbed-up nurse, without danger of contamination.

Geo. B. Lake, M.D.

Chicago.

The Status of Dentistry

AT THE present time the dental profession is uncertain and greatly confused in regard to the road necessary to take to lead dentistry to its proper standing. Different dental schools and various dental educators have given different views and no apparent solution is at hand.

When so many different schools and so

many great educators, men of brilliant intellect who have the welfare of dentistry in their hearts, cannot agree, I feel rather foolish at thinking that I know the solution to that confusion.

However, I look upon the problem rather from the standpoint of the man in actual practice than from the standpoint of the teacher or school. I am speaking from actual experiences of an every-day practice in an average American neighborhood, and the observations I get in my practice lead me to see the shortcomings and the real need of the average dentist, better than the educator could.

In the last ten years the great importance of considering the oral cavity and its structures as an interlocked unit with the rest of the units composing the human anatomy has been driven into the dentist as well as the general public. It has been talked about, theoretically proven and pathologically proven that a pathologic condition of the oral structures demonstrates itself in other parts of the body, thus showing the close relationship between the mouth and the rest of the structures, and also that many abnormal conditions in the body create corresponding conditions in the oral cavity.

Metabolic disturbances of the whole body directly affect the mouth structure. Endocrine disturbances, both physiologic and pathologic, have a direct effect upon the entire make up of the osseous structures, the teeth, and especially the enamel layers. That a proper diet, containing certain mineral and chemical elements, is essential for the formation and maintaining of good teeth is also admitted.

To the above must be added the complications that arise many times as a result of virulent infections about a tooth, either before or after extractions, and various other emergencies for which a dentist must be prepared.

It is very evident that a dentist must be more than a skilled mechanic with a smattering of pathology and therapeutics.

A patient comes to a dentist for an extraction. How many dentists, if any, undertake a physical diagnosis to determine the condition of the vital organs; if patient will make a safe risk; also to determine which anesthetic is the safest and most suitable for the peculiarities of that particular patient?

If a patient has a serious collapse, how many dentists are genuinely prepared to handle the case without becoming panicky and calling for a doctor? There is absolutely no excuse at all for a dental school to turn out dentists who are not fully prepared to take care of any emergency arising in their practice.

A dentist should be thoroughly trained in the entire medical field to be fully capable of taking his place among the scientists—to be able to fully realize, appreciate and remedy conditions of the oral structures, more from a preventive angle than the actual replacing of lost teeth. He must be a thorough pathologist; a thorough dietician; must thoroughly understand the chemistry of foods and their effect upon the mouth structure. He must be a thorough anesthetist; should have a good knowledge of modern medicine and therapeutics; and he must know all these things to know how to remedy and prevent oral abnormalities and to know all these, he must be a full medical graduate first, with an additional preparation in subjects most needed for the dental practice.

In other words, a dentist will not be equal to his medical brothers until dentistry is a medical specialty, like any of the other specialties of medicine.

Dr. Mayo, sometime back, has said: "The eye, ear, nose and throat man has to be a medical graduate first; the dentist, who needs a general knowledge of medicine much more than the above mentioned specialist, should certainly be a medical graduate."

What are the dental schools waiting for and what is the American Dental Association waiting for?

HENRY M. SCHAEFER, D.D.S.
Chicago.

Pay Child for Family Duties and You Make Him a Selfish Adult

NEVER pay Willie for running a family errand or Jane for helping with the dishes, unless you want to injure their characters for life and create a serious problem for yourself as a parent.

The result of such a practice, which is common in American homes, is that the child grows up intensely selfish and without any realization of his duty to contribute to the common good in family, community or organization.

The most common difficulty that parents meet is represented by the revolt of the girl or boy who has been paid. The day comes when the child values his own time more than the pay for the job. He lays down his duster or dishcloth. There is no defiance. Tom simply informs you quietly that he doesn't wish to wash dishes any more. Strictly speaking, the child is under no obligation. Have we not placed this or that service on a strictly business basis? Have we not confused the give and take of family life with the buy and sell of the market place?

On the other hand, parents should constantly think up tasks outside of the family routine, for which an outsider would otherwise be engaged, and encourage children to do them for pay, so teaching them the relation between the time and effort necessary to earn a quarter and the satisfaction they can buy for a quarter.

And never should parents reward school work, music practice or good conduct with money. Adults realize that there is no connection between effort in school and a dollar. Children should be encouraged with praise and approval, they should receive substantial evidence of the satisfaction their parents feel in their application. To pay in cash is to put the child's obligation on a false foundation.

SIDONIE M. GRUENBERG,
Director, Child Study Assn. of Am.

Abst. from *Children, the Magazine for Parents.*

Herpes Zoster and Paralysis Agitans
(A Case Report)

PARALYSIS Agitans is considered incurable, but it is conceded that spontaneous cures are sometimes performed by nature; therefore, in describing this case, I wish to take no credit not truly mine, because the cure that has apparently taken place was entirely unexpected.

Case: Mr. W., aged 60; height 5 ft. 7 in.; weight 154 pounds; well proportioned and strong enough to manage his small farm, presented himself for examination in August, 1927, complaining of a very annoying rash which he believed to be an infection, contracted by sleeping in a strange bed at a seaside resort. The condition proved to be phagedenic herpes zoster of the intercostals. I use the term phagedenic, though gangreneous might be considered more correct.

The conditions were as follows: Extending from the center of the spinal column, from the first to the fourth dorsal, the skin was covered by thick, scabbed clumps of herpes, which extended evenly around one-half of the thorax to the sternum in front. At a little distance it presented an appearance as if some one had taken a wide paint brush and made a uniform sweep of dark paint from back to front. The area was painful, deep beneath the surface, and itched badly.

To my astonishment, the next day when he returned the scabs had turned black and I found on their removal that the whole area was an ulcerous, sloughing mass and there was no sensation of pain as I removed them. Ordinary means of removal failing, I took a stiff, sterilized hand-brush and cleared the scabs from the whole area, brushing the surface until it bled freely. I then applied crude tar and dressed the wound.

Crude tar was the only application used and the whole area healed completely in a few weeks, without discomfort to the patient. Every third day I removed the scabs and brushed the surface. Ultrared radiation treatment was applied on alternate days.

Physical examination showed an old stricture of the urethra; moderate enlargement of the prostrate; moderate cystitis with many bacteria, but none Gram-negative; a trace of albumin in the urine and the urinary solids much reduced.

Blood count: White cells, 7,000; red cells, 4,410,000. Differential: Small lymphocytes, 42 percent; large lymphocytes, 2 percent; mononuclears, 1 percent; polymorphonuclears, 52 percent; eosinophiles, 1 percent; mast cells, 2 percent.

Paralysis agitans involved both arms and hands so that he could scarcely hold a cup to drink. His lower lip moved almost continuously, and the tongue trembled markedly on protrusion. He felt that this condition was incurable as his grandmother, mother, and a sister had had it all their lives.

He was given injections of *orchic extract* three times a week from the start, and a daily colon flushing, with a complete, three-days' fast every thirty days, and was taught to see that his urine was kept acid. If it was found alkaline, treatment to correct the condition was at once given.

I am forced to think that a very large percentage of people in this (San Joaquin)

valley have this condition of urinary alkalinity, because I find it in 90 percent of the cases who present themselves for treatment at my office. I also find that little progress can be made in the cure of any condition until this is corrected.

It may be considered trite to emphasize so simple a procedure, but it is astonishing to know that very few physicians lay stress on this important point. An alkaline urine is usually low in specific gravity; consequently waste is not being properly eliminated.

After the second month the patient's trembling ceased, save when he was suddenly startled or otherwise emotionally upset, as by getting into an argument, etc.

At the beginning of his second three-months' course there was no more palsy and his urine remained normal most of the time, up to February 18, 1928. The area discolored by the zoster had then almost entirely faded, but there was still a deep tenderness, "near the bone".

The last *blood count* showed:

White cells, 7,400; red cells, 3,230,000; differential: polymorphonuclears, 74 percent; large lymphocytes, 3 percent; small lymphocytes, 22 percent; large mononuclears, 0; eosinophiles, 1 percent; mast cells, 1.

Six months have now elapsed and he says there has never been a return of the palsy and that he never felt better.

I ascribe the result attained to the proper use of an endocrine product and to persistent elimination.

F. G. DE STONE, M.D.,
Modesto, California.

Foreign Bodies in the Esophagus

OCCASIONALLY the physician in an out of the way district is confronted with the problem of removal of a foreign body (generally a piece of bone) from the esophagus. If the physician is without a bristle probang, he usually refers the patient to a confrere who is so equipped. However, this is not always necessary, as the following method may be used in an emergency, with almost as good effect as the modern bristle probang.

Take a piece of fine bath sponge, about the size of a large almond nut, and tie one end of a strong piece of twine, three feet long, to the center of the sponge, *firmly*, so that there is no danger of its slipping off. Have the patient swallow the sponge with a large gulp of water, and then withdraw it slowly from the stomach. The foreign body usually comes up with the sponge. The operation can be repeated as many times as are necessary.

Twenty-one years ago a man was referred to me by another physician, who stated that the patient had a bone lodged in the esophagus, and that perhaps I had an instrument for its removal. I used the sponge, as described, and extracted two large pieces of bone, one piece being one and a half inches long, and a half-inch wide.

I was under the impression that this method was somewhat original, until the other day, in a book called "Medical Museum, or Repository of Cases, Experiments, Researches, and Discoveries", published in London in 1763, I found the following:

"To the third class of means used for extracting extraneous bodies (from the oesophagus) we have referred the different manners of employing the spunge: This method is principally expedient in cases where the extraneous bodies possess not a large space in the oesophagus; for in order to succeed it is necessary that the spunge should slip by the side of the body and pass beyond it, that it may extract it when drawn back. Thus we ought always to take our measures as much as possible, from the largeness of the extraneous body, in order to make the piece of spunge only of such a bulk, as that it may easily pass beyond the extraneous body; we ought also to use a very dry spunge, according to the observation of some authors, and to let it remain for some time, if the patient can endure it, that it may, by the humidity, be so distended as to fill the diameter of the oesophagus."

R. STEWART MACARTHUR, M.D.
Los Angeles, Cal.

Ephedrine for Seasickness

DURING the past year, two of my patients went abroad and I prescribed ephedrine, 3/8 grain, to be taken every four to six hours on the appearance of any suggestion of seasickness. These people had made several ocean trips before and had suffered each time from seasickness. This time they had no trouble. They each took about four capsules on each crossing. This, of course, proves little, but it appeared to me to be a rational treatment and worth trying further.

O. S. MCCOWN, M. D.
Memphis, Tenn.

Thumbnail Therapeutics

Immunity Against Syphilis

For a long time it was believed that, if treatment of syphilis was delayed, even the most intensive late treatment failed to sterilize.

Work at the U. S. Hygienic Laboratory has shown that intensive arsenical treatment (arsphenamines), even when instituted late in the disease, will sterilize an animal and that there will be a certain amount of tissue immunity which makes the animal resistant to chancre production at the site of reinoculation.—Dr. Carl Voegtlin, in *Venereal Dis. Information*, Nov. 20, 1927.

Eye Injuries

No doctor should be without cocaine solution and a spud or some small, sharp-pointed instrument which can be sterilized and used for the removal of foreign bodies from the eye. The next step is the cleansing and antisepticizing of the wound, which can be done with a solution of tincture of iodine and alcohol applied with a cotton applicator.—Dr. W. W. Potter, Knoxville, Tenn., in *Internat. J. Med. & Surg.*, Nov., 1927.

Bromism

The skin eruptions which frequently follow overdoses of bromides can frequently be relieved rather promptly by the intravenous admistration of 100 cc. of physiologic saline solution, or by giving 2 Gm. of sodium chloride, by mouth, 4 times a day.—Dr. J. F. Biehn, of Chicago.

Insulin in Uterine Hemorrhage

Insulin affects the internal secretion of the ovary during menstruation and in this way, indirectly, the activity of the entire endocrine system and the sensitiveness of the vegetative nerves, which, in turn, depends upon the calcium content of the blood. Insulin, finally, diminishes the menstrual hyperglycemia and reduces the severity and duration of the menstrual hemorrhage. The effect of insulin upon the ovary also shows the close relationships between the hormones, the vegetative nervous system and the ion content of the blood. — Dr. E. Vogt, in *Zentralbl. f. Gynäkol.*, March 19, 1927.

Heating with Diathermy

In diathermy treatments, the heat in the deep tissues cannot exceed the rectal temperature. Most of the heat is just under the skin.

Deep heat can be produced, to some extent, by using low frequencies for 20 to 30 minutes or more.—Dr. Edwin N. Kime, of Indianapolis, Ind.

Calcium and Parathyroid Extract in Sprue

Sprue is constantly associated with a fall of ionic calcium in the serum.

The absorption of calcium is not interfered with, but its metabolism is.

Amelioration of symptoms is obtained by administration of suitable calcium salts *orally*, and a pure, active preparation of parathyroids in adequate dosage.—Dr. H. H. Scott, in *Ann. Trop. Med.*, Mar., 1925.

Ultraviolet Rays for Furunculosis in Infants

Furunculosis is frequently a severe infection in young infants and the ultraviolet ray, used locally and generally, is a valuable adjuvant to surgical drainage and distinctly lessens the number of crops and number of new lesions.—Dr. M. L. Blatt, Chicago, in *Arch. Physical Therap., X-Ray, Radium*, Oct., 1927.

Ultraviolet Irradiation of Impetigo Contagiosa

Results in treating impetigo contagiosa are better when the whole body is exposed to ultraviolet irradiation than when local-

ized areas only are exposed. In addition, there is the advantage that no definite erythemas are produced.—Dr. J. B. Ellison, in *Lancet*, June 25, 1927.

Sodium Nitrite for Seasickness

Seasickness is probably due to overstimulation of the vestibule. Sodium nitrite reduces this.

Hypodermic injections of epinephrin solution were given to 16 persons suffering from *mal de mer*. Eight of these received, in addition, 3 to 5 grains (0.2 to 0.3 Gm.) of sodium nitrite every 2 hours, until they were relieved. The 8 controls were sick, on an average, for 2 days. Those who took the nitrite were all completely relieved in an average time of 4 hours.—Drs. J. F. Pearcy and D. B. Hayden, in J.A.M.A., April 14, 1928.

Fever in the New-Born

Fever in the new-born is frequent and is not dependent upon summer heat.

Helping the baby to secure its full quota of breast secretion, both colostrum and milk, in the first few days of life, appears to be the best means of preventing fever.—Dr. Ralph M. Tyson, of Philadelphia, in *Am. J. Dis. Child.*, Dec., 1927.

Pituitary Extract in Paralytic Ileus

In the case of an elderly patient with postoperative paralytic ileus, in bad general condition, in whom numerous other remedies had proved useless, spontaneous defecation took place after the intravenous injection of 450 cc. of saline-pituitary solution, containing 4 cc. of the pituitary preparation to 500 cc. of physiologic saline solution.—Dr. Vogt, in *Zentralbl. f. Chir.*, March 5, 1927.

Iodine and Thyroid Disease

The value of iodine varies in the prevention and in the treatment of simple goiter and in Graves' disease.

Prevention depends upon the fact that, if the iodine store in the thyroid is constantly maintained above 0.1 percent of iodine per Gram of dried gland, or about 5 mg. for the entire normal gland, no hypertrophic or hyperplastic changes occur. The use of iodized salt with a percentage of 1 mg. per 100 Gm. is recommended.

Treatment with iodine is limited, since no method can, with certainty, accomplish more than relief of any existing physiologic insufficiency.

In exophthalmic goiter the use of iodine is confined to its preoperative employment in making thyroidectomy safer. — Dr. D. Marine, in *Northwest Med.*, Feb., 1928.

Radiation or Surgery in Cancer?

The following facts have been established:

1.—Cancer can be destroyed by either surgery or radiation.

2.—A higher percentage of cures will be obtained by a combination of radiation and surgery than by surgery alone.

3.—Radiation of recurrent and inoperable cases will give relief from symptoms, prolong the patient's life and often obtain a clinical cure.

4.—High voltage x-ray should be used in the treatment of every malignant growth.

5.—Radiation therapy should be used only by an experienced radiologist.—Dr. Hugh H. Means, in *Ohio S. M. J.*, July, 1926.

Calcium Salts for Warts

The following ointment has removed many warts which resisted other treatment. It is painless and leaves no scars.

℞. Calcium Carbonate (or phosphate) 10.00
Lanolin (hydrous).....15.00

Mix well and apply to the warts.

No effect is seen for from 4 to 6 weeks. This treatment is especially valuable for children.— Dr. C. Gram, in *Ugesk. for Laeger*, Dec. 30, 1926.

Vaccines in Surgical Conditions

The intelligent use of bacterial vaccines has produced good results in the following surgical conditions: Furuncles and carbuncles; abscesses and ulcers; cellulitis; sinuses and fistulas; actinomycosis; cystitis, pyelitis, pyelonephritis and pyonephrosis; urethritis, prostatitis and seminal vesiculitis; vulvovaginitis, endometritis and salpingitis; puerperal sepsis; osteitis, periostitis and osteomyelitis; synovitis and arthritis; dacryocystitis, iritis and uveitis; otitis media,

sinusitis and mastoiditis; purulent bronchiectasis and pulmonary abscess; and in many other infectious conditions. — DR. B. A. THOMAS, in *M. J. & Rec.*, Feb. 15, 1928.

Loss of Appetite and Vitamin B

Prof. J. C. Drummond and Dr. S. K. Kon, of University College, London, have carried out experiments which tend to show that appetite is maintained by the vitamin B in the diet, and fails when this substance is absent or deficient. This vitamin is found, especially, in dried yeast, wheat, barley and rye.—*Science News-Letter.*

Intrauterine Glycerin Injections

Of 87 patients with puerperal infections, treated by intrauterine injections of glycerin, only 13.7 percent developed complications—less than half the percentage of a series treated in the ordinary way. The mortality among the first hundred patients treated was only 13 percent.

The dehydrating action of the glycerin helps to stop direct spread of local infection and thus tends to minimize the danger of subsequent blood or lymphatic infection; it stops hemorrhages better than any form of intrauterine manipulation or medication. —*The Prescriber*, Feb., 1928.

Surgical Drainage

Spreading infection is sometimes considered too much of a surgical emergency. The mere use of the knife simply adds trauma to the patient's burden. The knife is used to free fluid under pressure or to remove a spreading process which can be stayed in no other way.

The idea of drainage for infection, in less than a hundred years, will be found to have had as much mysticism in it as the bloodletting of our ancestors.—DR. JOHN E. JENNINGS, New York, in *Am. J. Surg.*, Feb., 1928.

Heart Strain

Pain over the region of the heart or behind the sternum is usually the first development in cases of heart strain.

For the severe symptoms of onset of heart strain the treatment must be symptomatic and stimulating. The patient must be put to bed, his clothes removed, with cold applications to the heart and venesection if there is venous congestion. The acute dyspnea and collapse require stimulants—brandy or coffee, hot baths and mustard pastes applied to the chest and back of the neck.

An intravenous injection of some preparation of digitalis is often marvelous in its effects; it can be followed by subcutaneous injection of digitalis and epinephrin. Complete rest should be enforced as long as possible.—DRS. S. M. H. KAHN and S. KAHN, New York, in *Ann. Intern. Med.*, April, 1928.

Contraindications to Vaccine Therapy

Bacterial vaccines are contraindicated when the patient is overwhelmed by a generalized infection, manifested by bacteremia or septicemia, or where, owing to prolonged illness, he is prostrated or his tissues are greatly wasted and no longer susceptible to stimulation for the production of antibodies.—DR. B. A. THOMAS, in *M. J. & Rec.*, Feb. 15, 1928.

The Galvanic Current

That the galvanic current has the advantages of convenience of application, ability to reach many areas not accessible to the diathermy method, of being more easily controllable and of permitting more definite dosage, is worthy of consideration. —DR. F. H. MORSE, Boston in *Internat. J. Med. and Surg.*, April, 1928.

Infective Arthritis

In conditions of acute toxemia and infective arthritis, due to septic tonsils, removal of the tonsils in the acute stage of illness is impossible, owing to the grave risk that would be involved of local sepsis or of acute streptococcal septicemia.

In such cases, large doses of antistreptococcal serum are of value.—SIR WM. WILLCOX, M.D., London, Eng., in *Lancet*, July 28, 1928.

Ultraviolet in Lichen Planus

Ultraviolet irradiations, in doses sufficient to produce erythema, caused the disappearance of lichen planus in the irradiated areas, according to the author's ex-

perience. This treatment may be combined advantageously with spinal roentgenotherapy. — Drs. Juster and Tchiprout, in *Bul. Soc. franc. de dermat. et syph.* 35: 15, 1928.

Ultraviolet Irradiation and the Blood of the Newborn

A study based on observation of a series of 200 new-born infants showed that the percentage of hemoglobin in their blood is not so high as is usually stated.

A short exposure to ultraviolet rays increases the hemoglobin content and the number of red cells to a slight extent in an average number of cases, and to a greater extent in cases in which the hemoglobin content and number of red cells are lower than normal; in this latter case they tend to remain normal.—Dr. H. N. Sanford, Chicago, in *Am. J. Dis. Child.*, Jan., 1928.

Milk Injections in Epididymitis

A patient with acute epididymitis, left testicle swollen and tense and a temperature of 101° was treated as follows: Cold applications to scrotum; hot milk and sedatives every four hours; protein suspension 10 cc., intramuscularly. The next day he was improved. Administered 10 cc. milk protein intramuscularly. On the third day the swelling was subsiding and the temperature normal. The fourth day he was given another injection of 10 cc. milk protein, intramuscularly. The epididymitis completely disappeared within a few days.—Dr. A. M. Barnett, Louisville, in *Urol. & Cut. Rev.*, Aug., 1928.

Drugs Secreted with Milk

In treating lactating women it is well to remember that the following drugs are secreted with the milk and may therefore affect the nursing infant; arsenic, bromides, iodides, lead salts, mercury, methenamin, opium, quinine, sulphur, vegetable cathartics and volatile oils.

X-Rays and Diathermy in Deafness

If x-rays and diathermy are used in combination in treating partial deafness, the condition will be *aggravated* instead of improved.—Dr. A. R. Hollender, Chicago.

Protein Vaccine in Neuritis

Good results have been obtained in cases of neuritis from injections of microbian vaccine. This does not act as a microbian antigen but because it represents a solution of microbian protein capable of causing a humoral shock localized in the nerve trunks. Autolysates of staphylococcus and *B. prodigiosus* were employed.—Dr. G. Delater, in *Presse méd., Paris*, Feb. 11, 1928.

Bacteriostatic Action of Acriflavine

The experimental intravenous injection of 30 mg. per kilo of neutral acriflavine in the normal rabbit causes an increase in the bacteriostatic action of the blood for staphylococcus albus. The intravenous injection of 35 mg. per kilo does not cause the blood to become bactericidal for staphylococcus aureus.—Drs. V. Burke and E. A. Rodier, Pullman, Wash., in *J. Lab. & Clin. Med.*, Dec., 1927.

Antityphoid Vaccination

Injection of old filtrates of the Eberth bacillus conferred rapid immunity on animals which had received lethal doses of the living germs. One third of the animals similarly treated and injected with nonspecific filtrate (staphylococcic, streptococcic or parathyphoid B), also survived.—Dr. M. Golovanoff, *Compt. rend. Soc. de Biol.* Par., July 15, 1927.

Gastric Lavage

Gastric lavage is most efficacious in pyloric stenosis, in peptic ulcer, in gastritis, gastric atony, gastric neuroses and other gastric disorders.—Dr. Marks S. Spaine, New York, in *M. J. & Record*, March 7, 1928.

Ephinephrin in Pulmonary Hemorrhage

In 50 cases of pulmonary hemorrhage of tuberculous origin, treated by intratracheal injections of epinephrin, the hemorrhage was arrested in 45. The period of arrest lasts usually about 12 hours. A 1:3,000 solution is more effective than one of 1:1,000. — F. Giuffrida, *Muench. med. Wchnschr.*, Feb. 17, 1928.

THE LEISURE HOUR

A Last Will

HE WAS stronger and cleverer, no doubt, than other men, and in many broad lines of business he had grown rich until his wealth exceeded exaggeration. One morning, in his office, he directed a request to his confidential lawyer to come to him in the afternoon—he intended to have his will drawn. A will is a solemn matter, even with men whose life is given up to business, and who are by habit mindful of the future. After giving this direction he took up no other matter but sat at his desk alone and in silence.

It was a day when summer was first new. The pale leaves upon the trees were starting forth upon the yet unbending branches. The grass in the parks had a freshness in its green like the freshness of the blue in the sky and of the yellow of the sun—a freshness to make one wish that life might renew its youth. The clear breezes from the south wantoned about, and then were still, as if loath to go finally away. Half idly, half thoughtfully, the rich man wrote upon the white paper before him, beginning what he wrote with capital letters, such as he had not made since, as a boy in school, he had taken pride in his skill with the pen:

In the name of GOD, Amen

I, Charles Lounsbury, being of sound and disposing mind and memory (he lingered on the word memory), do now make and publish this my last will and testament, in order, as justly as I may, to distribute my interests in the world among succeeding men.

And first, that part of my interests which is known among men and recognized in the sheep-bound volumes of the law as my property being inconsiderable and of none account, I make no account of in this my will.

My right to live, it being but a life estate, is not at my disposal, but, these things excepted, all else in the world I now proceed to devise and bequeath.

Item: And first, I give to good fathers and mothers, but in trust for their children, nevertheless, all good little words of praise and all quaint pet names, and I charge said parents to use them justly, but generously, as the needs of their children shall require.

Item: I leave to children exclusively, but only for the life of their childhood, all and every the dandelions of the fields and the daisies thereof, with the right to play among them freely, according to the custom of children, warning them at the same time against the thistles. And I devise to children the yellow shores of creeks and the golden sands beneath the waters thereof, with the dragon-flies that skim the surface of said waters, and the odors of the willows that dip into said waters, and the white clouds that float high over the giant trees.

And I leave to children the long, long days to be merry in, in a thousand ways, and the Night and the Moon and the train of the Milky Way to wonder at, but subject, nevertheless, to the rights hereinafter given to lovers; and I give to each child the right to choose a star that shall be his, and I direct that the child's father shall tell him the name of it, in order that the child shall always remember the name of that star after he has learned and forgotten astronomy.

Item: I devise to boys, jointly, all the useful idle fields and commons where ball may be played, and all snow-clad hills where one may coast, and all streams and ponds where one may skate, to have and to hold

the same for the period of their boyhood: And all meadows, with the clover blooms and butterflies thereof; and all woods, with their appurtenances of squirrels and whirring birds and echoes and strange noises; and all distant places which may be visited, together with the adventures there found, I do give to said boys to be theirs. And I give to said boys each his own place at the fireside at night, with all pictures that may be seen in the burning wood or coal, to enjoy without let or hindrance and without any incumbrance of cares.

Item: To lovers I devise their imaginary world, with whatever they may need, as the stars of the sky, the red, red roses by the wall, the snow of the hawthorn, the sweet strains of music, or aught else they may desire to figure to each other the lastingness and beauty of their love.

Item: To young men jointly, being joined in a brave, mad crowd, I devise and bequeath all boisterous, inspiring sports of rivalry. I give to them the disdain of weakness and undaunted confidence in their own strength. Though they are rude and rough, I leave to them alone the power of making lasting friendships and of possessing companions, and to them exclusively I give all merry songs and brave choruses to sing, with smooth voices to troll them forth.

Item: And to those who are no longer children, or youths, or lovers, I leave Memory, and I leave to them the volumes of the poems of Burns and Shakespeare, and of other poets, if there are others, to the end that they may live the old days over again freely and fully, without tithe or diminution; and to those who are no longer children, or youths, or lovers, I leave, too, the knowledge of what a rare, rare world it is.

WILLISTON FISH.

(Reprinted).

The Doctor

He may be white man, African,
Parsi, Jain, Mohammedan;
He may be pagan, through and through;
He may be Christian or a Jew;
Confucius may have formed his creed—
Yet I think God loves him, indeed,
For he fulfills his neighbor's need.

—MIRIAM H. KRARUP.

Passing Observation

The trouble with these "Do You Want Money?" ads is that when you read them you always discover you either have to work for it or mortgage something to get it..—*Cincinnati Enquirer.*

Transparent

The Irate Father: "I can see r i g h t through that chorus girl's intrigue, young man."

The Lovesick Son: "I know, Dad, but they all dress that way nowadays."—*Jottings.*

Ask Louis Pasteur—He Knows!

Doctor: "Plenty of exercise will kill all germs."

Patient: "I know, but how can you get them to exercise?"—*Gateway to Health.*

Museum Pieces

Henry Ford, who is getting together pharmacy antiques for his museum, to show what the drug-stores of other days were like, might include a couple of drugs in the lists of exhibits.—*Chicago Evening Post.*

My Paw

Maw was sayin' to Paw the other day
How it was the wimmin that done away
With the bad influence of the saloon
On the politicians, an' how pretty soon
They would stop all this corruption an' graft.
An' Paw jist laffed.

—B. H.

Current Medical Literature

Intramuscular Injections of Dextrose

The intramuscular administration of a 10-percent solution of dextrose, in physiologic solution of sodium chloride or distilled water, is a practical and relatively safe method for raising the blood sugar level, and is indicated in those conditions in which such a rise is desirable and other methods of administration are contraindicated.

The contraindications are those in general applicable to intramuscular injections—the presence of a known hyperglycemia and possibly the presence of a bacteremia.

The maximum rise in blood sugar following intramuscular injection of dextrose solution occurs within half an hour.—Dr. Jerome Glaser, Chicago, in J.A.M.A., Sept. 8, 1928.

Liver Therapy in the Secondary Anemias

There is ample evidence in the literature to the effect that liver feeding is actuallly of service in various forms of secondary anemia. Dr. H. R. Harrower, in *Compend. of Med. and Surg.*, Sept., 1928, cites six reports in the literature of 1927-8 confirming this, sodium nucleate being used, in some cases, with liver or liver extract. Harrower himself records excellent results with a preparation containing liver extract plus sodium nucleate and says that many times he has noted an increase of 100,000 red cells per cubic millimeter per day per dose. The conclusion is that the benefits of hepatic organo-therapy are not limited to patients with pernicious anemia, but that, other things being equal, severe secondary anemia is influenced in an equally favorable manner.

Avertin Anesthesia

R. L. Stehle, in *Canad. M.A.J.*, Dec., 1928, draws attention to a new anesthetic—Avertin—tribromethyl alcohol.

Avertin is administered rectally, in aqueous solution. Sleep ensues in from 3 to 10 minutes and lasts for about 2 hours. On awaking, there are no unpleasant recollections, and postoperative vomiting, headache and salivation are practically absent.

Avertin is not yet offered for general use. It has been supplied for trial to a number of hospitals, but the opinions of surgeons have not been unanimous in its favor. A number of deaths have been attributed to its use and rather numerous cases of alarming circulatory and respiratory depression have been reported.

There is reason to believe, however, that the deaths and complications following the early use of Avertin have been due to the fact that the dosage and method of administration have not been standardized and that these must be regulated in accordance with clinical experience. While the new anesthetic will doubtless not turn out to be a complete substitute for ether, it may still find a useful place in anesthesia, and especially in obstetrics and psychiatry.

Bismuth a Specific for Vincent's Angina

The microorganisms concerned in Vincent's angina are a fusiform bacillus and a long spirillum. Some believe them to be two distinct forms dwelling in symbiosis; others think they are different stages of development of the same organism.

In a report by Dr. O. C. Rigby, of Shreveport, Louisiana, in *Tri-State Med. Jour.*, Dec., 1928, he states that, in 1926, seeing that the spirochetes of syphilis (which morphologically resemble Vincent's spirochetes) respond to arsenic and bismuth and that Vincent's angina is also relieved by arsenicals, it occurred to him that bismuth in some form might be equally beneficial. It had been demonstrated that bismuth kills the spirochaeta pallida and, further, that after intramuscular injections of the metal it is carried by the blood and deposited in the salivary glands and about the gums.

The first patient treated by the author, in Dec., 1926, by this method had a severe attack of laboratory-diagnosed Vincent's angina. She received one intramuscular (gluteal) injection of 0.2 mg. of potassium-bismuth-tartrate with Butyn. Twenty-four hours later the membrane had entirely disappeared and all symptoms had subsided, without recurrence.

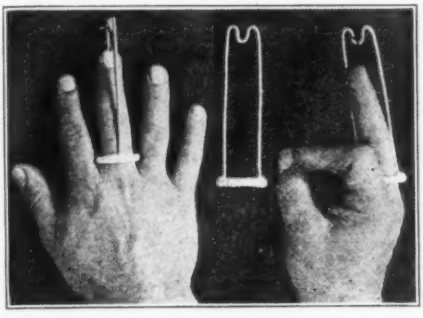
After several such proved cases had been similarly treated and promptly and permanently relieved, the author reported them locally in 1927. Since then a number of Shreveport physicians have employed the intramuscular injection of potassium-bismuth-tartrate for Vincent's angina and now regard it as a specific for this disease. Reports are given of 16 of these cases all the the patients being promptly cured and the great majority within 24 hours.

The drug should be administered through a long needle, plunging it deeply into the gluteal muscle, otherwise it is likely to cause considerable pain or may even produce an abscess. The ampule should be heated sufficiently to cause the bismuth to go into suspension. If the case does

not subside, a second injection of 0.2 mg. may be given in 48 hours after making the diagnosis.

The worst form of throat ulceration responded more readily than Vincent's infection of the gums.

The results prove that bismuth is quicker in its action than neosalvarsan (neoarsphenamine) intravenously, several of these patients having been previously treated by the latter drug without effect.



The Thomas Finger Splint

Dr. H. Milch, in *M.J. & Record*, Nov. 7, 1928, describes an adaptation of the Thomas splint to finger contractures and fractures. It resembles the usual type of Thomas splint and is made of steel wire, 1/16-inch diam. The shanks of the splint are about 4½-inches long. The upper ring when padded should measure about 1-inch in diameter. The finger is inserted through the ring of the splint and traction may be applied either through the medium of adhesive strips distal to the site of fracture or by means of a heavy, silk thread, drawn through a hole pierced in the nail.

The splints may be easily made by the physician himself.

Physiologic Reactions to Radiant Energy

Dr. F. T. Woodbury, of New York, in *Phys. Therap.*, July, 1928, states that prolonged concentrated irradiation with ultraviolet causes a degeneration of the prickle cells of the skin, characterized by pyknosis of the nucleus, contraction, a dissolution and possible coagulation of the plasma. Leukocytes gather and pigment is produced as a reaction of the body to the injury. The reaction is not destructive but productive, with normal histologic reorganization. No scar tissue results. It is impossible to cause a true burn with ultraviolet energy.

Certain susceptible persons develop a hypersensitiveness of the skin to prolonged exposure to ultraviolet, and acute inflammation appears to be the most frequent lesion in these cases.

Irritation of the skin from ultraviolet rays may be allayed by resorcin and prevented by applying quinine ointment or a soap containing sodium naphthosulphate, or by 10 percent tannin in petrolatum or alcohol.

Irradiated ergosterol is now considered by many to be equivalent to the antirachitic vitamin D. Since irradiated substances, when fed, have the same effect as irradiating the skin, the question arises, how does the irradiated sterol act?

The parathyroids produce a hormone in the normal animal which appears to have the function of regulating calcium metabolism. The parathyroids become considerably enlarged and active when the body is irradiated by ultraviolet. It would seem reasonable, therefore, to believe that the irradiation activates the cutaneous sterol into vitamin D which, when absorbed, stimulates the parathyroids to active hormone production, bringing about the results connected with calcium utilization. Not only the parathyroids, but other ductless glands also are stimulated, judging by clinical and experimental evidence.

Alcoholic Intoxication

As a general rule a person is not "legally" considered drunk unless, in addition to the evidence of alcoholic consumption, he be shown to have lost either the control of the faculties or of the muscles of locomotion. Many of the signs commonly accepted as due to alcoholic intoxication may, however, be absent in persons who have consumed large quantities of alcohol; and, on the other hand, several of these signs may be present, due to conditions other than alcohol consumption.

In *Am. J. M. Sc.*, Aug., 1928, Dr. E. Bogen, Cincinnati, gives the results of an intensive clinical study of series of cases of known excessive alcohol consumption. From his findings he states that, in view of the difficulty in making the diagnosis of acute alcoholic intoxication from the clinical evidence alone, and of the constancy of the findings as to the relationship of the concentration of alcohol in the urine and breath to the degree of alcoholic intoxication of the patient, it is concluded that the examination of persons to determine the state of alcoholic intoxication should, in every instance, include some such quantitative estimation of the amount of alcohol present in the urine, breath or body fluids. Although this should not supersede other clinical evidence, the alcoholic concentration referred to constitutes the most reliable single factor in arriving at a correct diagnosis of the degree of alcoholic intoxication.

In the same journal, Drs. J. L. Richardson and M. A. Blankenhorn give their results from a study of 1928 cases of alcoholism studied in the Lakeside Hospital, Cleveland, from 1921 to 1928.

These writers find that the clinical aspects of alcoholism today are different from those formerly observed. Alcoholism today is characterized, as a rule, by early loss of consciousness in a large percentage of cases, a slight febrile reaction and a transient albuminuria, in addition to the ordinary signs. Occasionally very unusual clinical pictures are presented, due probably to the presence in the drink consumed of poisons other than alcohol.

The old time daily "tippler" has given way to an individual who indulges in frequent "sprees". This accounts for the diminution of cases of delirium tremens, which is admittedly the result of chronic alcoholism.

Alcoholic neuritis, at present, is characterized by rapid onset—usually less than four weeks elapse before definite muscular weakness appears. Weakness is the outstanding complaint in 72 percent of the cases.

Of 154 patients hospitalized for alcoholism, 8 died, including 3 from cerebral hemorrhage, 3 from cirrhosis and 1 from wood-alcohol poisoning.

Physical Therapy and Common Skin Diseases

In *Mil. Surgeon*, Dec., 1928, Major J. M. Troutt and Capt. H. A. Gibson, M.C., U.S.A., report on 26 cases of common skin lesions treated by physical therapeutic measures (ultraviolet rays and diathermy especially) after the persistent use of local remedies had failed.

The general results showed that ultraviolet irradiation healed promptly the superficial infections, including various tinea and trichophyton manifestations. It exhibited a quick curative effect on a severe case of psoriasis and made the lesions of lichen planus disappear rapidly. It had little effect on two varieties of eczema observed and but slight effect on a case of scleroderma. No benefit was obtained in a case of vitiligo. The results in 2 cases of acne were sufficiently encouraging to warrant its use in such cases. A series of pompholyx cases was the most interesting group, and the authors are convinced that a combination of physical remedies with general tonic treatment offers the most in the treatment of this annoying disease.

The authors feel that the maximum local effects from physical therapy in cutaneous discase should be manifested during the first three weeks of intensive treatment.

No one agent was employed exclusively; various physical agents were used according as they seemed indicated. Usually only a second degree erythema was sought with the actinic rays. With diathermy the socalled skin effect was obtained by the cuff and extremity-in-water method. Treatments were given daily at first and then gradually less frequently, according to results.

Intradermal Vaccination with Calmette's Anti-Tuberculosis Virus

Dr. Arvid Wallgren, Gothenburg, Sweden, in J.A.M.A., Dec. 15, 1928, expresses his opinion that children vaccinated with the Calmette attenuated tubercle bacillus vaccine only exceptionally react positively to tuberculin. He suggests intradermal vaccination as a method more rational, from the clinical point of view, than the peroral. Very little has yet been proved regarding the immunizing effect of peroral anti-tuberculosis vaccination.

With the injection method, children become allergic in a quicker and more certain way. Progress may be observed and evidence is obtained if, and when, the child is immunized. There should be no difference between a smallpox and anti-tuberculosis vaccination; in both one has to observe the treated cutaneous area and possibly repeat the vaccination. In the peroral method there is no proof that the vaccination has taken.

In the anti-tuberculosis vaccination, however, there is a much longer period of incubation than in the smallpox vaccination; the child must be protected from virulent infection for 6 or 7 weeks, according to Wallgren. This will make the method less generally used.

Wallgren's experience, in regard to anti-tuberculosis vaccination with Calmette's vaccine carried out along the lines suggested, is that no vaccinated child has developed any tuberculous disease after having been exposed to it in its home.

Before vaccination the child is segregated and carefully tested to see that no tuberculous disease is present. The vaccine inoculation is then made in one sitting on the outer surface of the thigh. Wallgren finds that Calmette's vaccine is not so non-virulent as was originally supposed in France.

Preventing Explosions of Ethylene

A good deal of trouble was experienced, as a result of explosions, during the early years of the use of ethylene as an anesthetic. It was found that there were differences of electrical potential between the various persons and apparatus in the operating room, which might cause sparks sufficient to ignite the explosive mixture of ethylene and oxygen or air.

The Presbyterian Hospital, Chicago, has solved this problem, and their solution is reported by Dr. Isabella C. Herb, in *Anesthesia & Analgesia* for Dec., 1927, as follows:

"The plan chosen was that of having all objects on which a charge might exist connected together by a metallic connection and held at a standard potential, such as ground. Two efficient plans for the floors have been adopted at the Presbyterian Hospital, Chicago. The installation on the floor of a piece of steel large enough to accommodate surgeons, anesthetists, nurses, operating table and gas machine. The sheet is of such size that any person approaching the gas machine or operating table will first be grounded by stepping on the outer margin of the metal plate.

"Another plan is to have the floor made of small squares of terrazzo separated by brass strips. For our purposes these strips are placed five inches on centers each way, and are slotted together at the intersections. The general appearance is that of a tile floor except that the joints are brass instead of cement. This grille of brass strips is electrically connected together and then grounded to the water pipes. Each piece of movable equipment, such as tables, stands and anesthetizing machines is equipped on the under side with several small link brass chains which are long enough to drag on the floor for several inches. Regardless of the position of the equipment on the floor at least one of these chains will be in contact with a brass strip; thus all are grounded and a difference in potential is impossible. The smallness of the squares of the terrazzo also grounds the operators and assistants as they move about in the regular routine of work, which eliminates the possibility of an assistant going to another room or to ungrounded equipment and bringing back a charge of different potential.

"All gas machines contain rubber which, being

a non-conductor, will retain a charge for several hours. When a grounding source is applied to charged rubber a spark is produced. Consequently it is evident that some steps should be taken to discharge the tube and all the rubber parts of the machine. This was accomplished by placing brass chains in the netting covering the bag and a spiral wire around the tube. These make metallic contact with the other part of the machine.

"Inasmuch as ethylene without oxygen shows no tendency to explode, any wire connection between the head of the machine and the ethylene tank is unnecessary. Two winters, with the attendant electro-static conditions, have passed since the method just described has been in use, and, although over ten thousand ethylene anesthesias have been given, no explosions have occurred, which shows the efficiency of the method as compared with our previous experience."

The Ringworm Lamp

Hairs infested with ringworm show a distinctly peculiar fluorescence when exposed to light rich in ultraviolet rays passed through Wood's glass. This is a glass containing oxide of nickel, of deep purple color, which transmits only a small proportion of the rays of visible light and then only those at the violet end of the spectrum.

Although many other organic and inorganic substances fluoresce under similar conditions, the appearance of the ringworm fungus is so striking that diagnosis is easy. In Queen Mary's Hospital, Carlshalton, Eng., in 2000 children examined, unsuspected ringworm was observed by this method in 15. All children entering the hospital are at once subjected to a ringworm lamp examination, which takes only a couple of minutes. In this way the hospital has been kept free from ringworm. It is only necessary to pass the lamp near the scalp a few times; any infested hairs will at once fluoresce.—N. Gray Hill, M.C., M.B., M.R.C.S., B.S., in *Brit. J. Actinotherapy*, Aug., 1928.

Immunization Against Scarlet Fever

Dr. Guy L. Kiefer, Lansing, Mich., states in J.A.M.A., Dec. 15, 1928, that in three of the large State Institutions for children and adolescents in Michigan, the Dick test for susceptibility to scarlet fever and active immunization against scarlet fever have been carried out. The doses varied from 500 to 30,000 skin test units, in the different injections, three or more being made in some cases.

The results have been that all three institutions, in which, previously, scarlet fever cases were constant, are now practically scarlet fever-free. All new arrivals are quarantined in a separate building and tested and injected until reactions are negative.

Equally satisfactory results have been reported by a number of Public Health officers who had been supplied with scarlet fever streptococcus toxin; and in about 6000 children a change from a positive to a negative test was observed following treatment.

The author says that about 7 percent of the susceptible persons will develop nausea after the second or third dose; about 4 percent nausea, vomiting and purging and about 2 percent nausea, vomiting, purging and a rash. The reactions seldom last more than 24 hours.

The needs for future work are that the toxin should be stabilized and standardized; the duration of immunity should be studied more carefully and polyvalent toxins and antitoxins should be investigated.

Body Acidity and Emotional Excitability

Extensive tests have shown that there is a positive correlation between the acidity of both saliva and urine and the emotional excitability of the individual. The least excitable persons tend to have the most acid saliva and the same is true as regards acid urine. If these two fluids can be taken as adequate samples of the reaction of the entire body, it would seem that there is a definite negative correlation between bodily acidity and emotional excitability.—Dr. Gilbert J. Rich, Chicago, in *Arch. Neurol. and Psychiat.*, Sept., 1928.

Therapeutic Use of the Bacteriophage

As a laboratory phenomenon, the bacteriophage is now an accepted fact though its exact nature is far from being definitely settled. As a therapeutic measure there is still, however, much divergence of opinion, despite the fact that d'Herelle has made large claims for it from the first.

In *J. Lab. & Clin. Med.*, Oct., 1928, Drs. T. B. Rice and V. K. Harvey give their findings in 50 personal cases, in which the bacteriophage was used therapeutically in suppurative conditions.

These authors have found that bacteriophage filtrates, active for autogenous cultures, used in their suppurative cases have been highly effective against streptococcus aureus and albus, Bacillus coli and Bacillus pyocyaneus.

The filtrates have been found most effective when used as a wet dressing or when instilled into a cavity.

There is considerable evidence that stock cultures of the bacteriophage may be used with profit when there is not time or facilities for the preparation of the autogenous product, or while it is in preparation. This is particularly true of the staphylococcus preparations.

The authors say that those who have seen the results in actual cases are invariably enthusiastic and are convinced that the method has much merit. At least it offers promise and should be thoroughly investigated.

New Method of Recording Tremor

The inertia developed in the working of instruments now used for recording tremors has been a handicap, and an inertia-free apparatus, especially for the recording of the finer tremors, would be a desideratum.

In *California & West. Med.*, Sept., 1928, Drs. H. G. Mehrtens and P. S. Pouppirt, of San

Francisco, describe a method of utilizing light for the purpose. The apparatus consists of a source of light, a lens, a timer and a camera equipped with a motor-driven continuous strip of sensitive paper. To make a sharp record, an ordinary sewing thimble perforated by a fine needle is slipped over the patient's finger. The shadow of the needle makes the record.

Different pathologic conditions give characteristic tremor records or tremographs.

Variations in tremor are also caused by emotional stimuli and this may ultimately be of clinical use in psychiatry.

Physical Therapy in Nervous and Mental Diseases

Dr. Harold L. Mitchell, in *Atlantic Med. J.*, May, 1928, states that the field of nervous and mental diseases offers great opportunities for the intelligent and judicious use of some forms of physical therapy.

In any spastic neurologic condition, no form of physical therapy has any actual curative effect. The only object in its use should be to prevent contractures, to improve the patient's general physical condition and to keep the muscles in the paralyzed extremities as firm and well-nourished as possible, until such time as nervous function returns. This is all that can be expected and to accomplish it massage, passive movements and perhaps electric stimulation are very helpful.

In flaccid neurologic conditions there is a necessity for absolute physiologic rest of the affected parts. Convective heat can be employed early, massage when all tenderness has disappeared, and electric stimulation after all inflammation has subsided.

Mechanical, electric and thermal applications are useful aids in the management and treatment of the neuroses; the thermal applications (especially hydrotherapy and electric cabinet sweat baths) are much more useful than either the mechanical or electric forms.

Physical therapy is practically indispensable in the proper treatment of the psychoses. Continuous baths, electric sweat baths, and packs of various kinds are quieting and at the same time increase elimination in excited patients.

We are coming to realize that the active mind is the healthiest mind and that idleness is conducive to morbid thinking. The absolute rest cure is almost a thing of the past and in its place we have substituted a therapy in which provision is made for some form of physical and mental activity as well as rest.

In nervous and mental diseases, physical therapy must be used with the clear understanding that only help and not a cure may be expected from it.

Benign Hemorrhages of the Uterus

Uterine hemorrhage is one of the most important clinical signs of disease of women.

In *J.A.M.A.*, Sept. 29, 1928, Dr. Henry Schmitz, of Chicago, records his observations, based on the study of 2,184 consecutive hospital records and 2,126 records of outpatients, uterine hemorrhage having been observed in about 25 percent of these.

Uterine hemorrhages signify either a disturbance of the menstrual flow or a bleeding independent of menstruation.

Menstrual bleedings are of uterine and ovarian origin. Uterine disturbances cause a prolongation and diffuseness of the flow—*hypermenorrhea;* ovarian disturbances are characterized by a shortening in the periodicity of the menses—*polymenorrhea.* Hypermenorrheas comprise about 60 percent of all benign uterine hemorrhages and polymenorrheas 20 percent.

Extramenstrual hemorrhages — metrorrhagias —are due to a proliferation of tissue with loss of continuity of the surface epithelium by rupture, ulceration or necrosis. Benign metrorrhagias comprise about 20 percent of the total benign hemmorrhages and include hemorrhagic myopathies.

A diagnostic curettage and microscopic examinations of all scrapings are necessary in those cases in which: (1) a correct diagnosis by physical examination cannot be made; and, (2) the hemorrhage occurred in the menopausal period of life.

Radiation therepy was indicated in 32.31 percent of the benign functional hemorrhages and 11.03 percent of uterine myomas.

It is important to note the large number of uterine hemorrhages, even at advanced ages, that are benign in character. Not all cases, by any means, mean cancer.

Incomplete Tonsillectomy

It has been stated that over 70 percent of tonsillectomies are in reality tonsillotomies, an appreciable fragment of tonsil tissue remaining in the throat. This is harmful to the patient and a reproach to the operator.

When tonsillectomy is undertaken, the tonsils should be completely removed or not at all.—Dr. J. B. H. Waring, Cincinnati, in *Eye, Ear, Nose & Throat Monthly*, Nov., 1928.

Ocular Manifestations of Vascular Disease

Dr. A. Maitland Ramsay, Glasgow, Scotland, in *Practitioner*, Sept., 1928, states that the earliest signs of vascular disorder are, in many instances, to be seen in the fundus oculi, and the changes visible in the eye may be regarded as an index of what is taking place in other regions of the body. An electric ophthalmoscope, equally with a stethoscope and a clinical thermometer, ought to be a part of the ordinary outfit of every family doctor.

Dr. Ramsay gives many instances of the value of ophthalmoscopic study of the eye to the general practitioner, but only a few of these can be mentioned here.

Considerable variations in the size, distribution and tortuosity of the retinal vessels are consistent with normal health.

Whenever toxins circulate in the blood, grave disorder of visual function at once results. Abnormal dilatation of the capillaries is the first step, followed by loss of translucency, and it is only a matter of time until the arterioles and arteries suffer.

So long as the walls of the retinal blood vessels are healthy they seem to be capable of resisting an extraordinarily high systolic blood pressure. Arteriorsclerosis may be regarded as a sequela of high blood pressure and the small vessels of the retina are especially liable to attack; consequently, this morbid process can be studied in the fundus oculi with a minuteness which is not possible in any other part of the body.

The earliest signs of the onset of the disease are a general loss of translucency of the background of the eye and a brick-red congestion of the optic nerve. The whole pathologic process ultimately culminates in atrophy of the optic nerve.

Hemorrhage is not likely to occur if the retinal vessel walls are healthy. Two factors are necessary for hemorrhage: increase in blood pressure and decrease in the strength of the walls of the vessels.

Retinal hemorrhages, occurring in the absence of any increase in the general pressure, are seen in other conditions of the blood, such as pernicious anemia, etc.

In pyemia, organisms circulating in the blood may lodge in the uveal tract and cause ophthalmitis.

The ophthalmoscopic study of vascular degenerations demonstrates that danger to life is greater when the vessel implicated is on the arterial side of the capillaries than when it is on the venous side, whereas the reverse is the case in the prognosis regarding danger to sight.

Early Tracheotomy

Laryngeal obstruction may develop following an operation on the thyroid gland or from some disease condition. If, on examination, the vocal cords are seen to be fixed in the midline, a tracheotomy should be performed at once. If the obstruction is slight and there is some space between the cords, it is justifiable to defer the operation for some hours in the hope that it will be unnecessary.

There are advantages in an early tracheotomy; the general condition of the patient has not become impaired by a long fight for sufficient oxygen; the mental condition is clear, and the patient is able to cooperate; the cough reflexes are present and not deadened by fatigue and by large amounts of morphine; there is a minimum of mucus in the bronchi; and, finally, the operation can be better and more safely performed, since there is no great haste.—Dr. W. H. Prioleau, Cleveland, in *Surg. Gynec. & Obst.*, Nov., 1928.

Ultraviolet Irradiation as an Adjunct in Surgery

Dr. A. D. Willmoth, in *Hosp. Progress*, Nov., 1928, states that a field of usefulness for ultraviolet therapy is in the management of those under-nourished patients coming to the surgeon for operation. Many such persons live remote from those possessing lamps but the help is easily carried to them by raying either olive or cod-liver oil for 20 minutes at 18-inches distance. This rayed oil holds its vitamin content for about four months and supplies the way to revive these unfortunates.

As an adjunct to surgery in wounds following the removal of carbuncles by coagulation or cancers that have been removed by the same method, or any open wound, nothing so much improves the healing process and makes the epidermization progress coincidently with the deeper structures than does the water-cooled ultraviolet lamp for 1 to 2 minutes, at 6-inches distance, with the open window, and repeated every other day.

The action of the rays can be enhanced by the use of a photosensitive agent that will carry the rays into recesses that could not otherwise be reached. Such agents are 10-percent aqueous solutions of resorcin painted on the surface to be treated, or peroxide of hydrogen. These solutions, or glycerine solutions of the dyes, may also be used in cavities. Mercurochrome (owing to its mercury content) should be avoided, as it is dangerous.

In facial erysipelas, use the water-cooled lamp at 6-inches distance, open window, for 3 minutes in each area, and repeat twice daily if possible.

The air-cooled lamp is almost a specific in tuberculous peritonitis.

Prolonged Labor

Dr. Harold Bailey, New York, in *Am. J. Obstet. & Gynec.*, Sept., 1928, states that, when labor is prolonged, acidosis increases hour by hour and with the lowering of the CO_2 there is a coincident lowering of the blood pressure. Acidotic shock from anesthesia, at the end of labor, would appear to be a logical explanation of the 5 deaths that occurred in 15,000 deliveries in the author's service during the past six years.

There are two or three clinical signs of aid in diagnosing acidosis: bright red lips, body surface dry, blood pressure low and exhaustion marked.

Morphine (1/4 grain) is one of the first requirements for relieving the condition of acidosis; but in prolonged labors morphine should only be given the patient to prepare her for operative delivery.

If labor endures for more than 24 hours and cannot be brought to a close, dextrose should be given intravenously before operation.

When the blood pressure is below 85, operative intervention must be postponed until it has been brought to 100 or above.

Of all forms of delayed labor the one most difficult to treat is the socalled primary inertia and rigid cervix. The Beck type of cesarean section is contraindicated, on account of the danger of the entrance of infection. The insertion of a No. 4 bag and packing the vagina with wet gauze, delivering the patient by forceps operation when dilatation has occurred, is a better procedure.

Calcium Chloride in Epididymitis

In *Am. J. M. Sc.*, Sept., 1928, Dr. E. Rupel, of Indianapolis, reports upon two series of cases of nontuberculous epididymitis (both specific and nonspecific), treated exactly alike in

every way, except that in one series the patients received an intravenous injection, usually of 5 cc. (about 0.5 Gm. of the salt), of a 5-per-cent solution of calcium chloride. The injection was made slowly—2 or 3 cc. per minute—the pulse and general state being closely watched. About one-third of the patients received 2 injections and the others received 3 or more injections at one-day intervals.

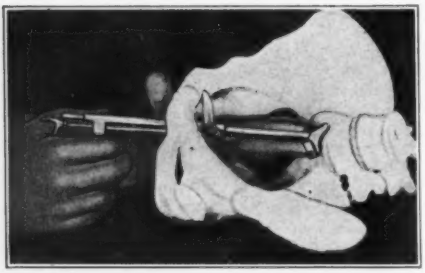
Relief from pain and tenderness, without recurrence, is the rule, even if the patient resumes his work daily. Disability, therefore, in the cases treated by the addition of calcium chloride injections, was greatly lessened.

Recurrence of the inflammation often follows too few injections, and a course of four or five, once daily, is suggested.

No harm has been observed to follow such treatment.

Direct Measurement of True Obstetric Conjugate

Dr. Joseph T. Smith, of Cleveland, Ohio, has devised an instrument for the direct measurement of the true obstetric conjugate (a procedure never, heretofore, possible), and his report appeared in *A. J. Obst. & Gynecol.*, April, 1928.



The general features of the instrument and the method of using it are shown in the accompanying figure. It is slender enough to enter the vagina without inconvenience. The measurements are read directly from a centimeter scale on the top of the stationary bar.

This instrument has been thoroughly tested and should be of great value to all who practice obstetrics.

Periodic Health Examinations

The articles on periodic health examinations which are now appearing bear a striking similarity to one another, according to Dr. M. L. Harris, President-elect of the A.M.A.

In *Bul. Chicago M.S.* for Oct. 27, 1928, Dr. Harris suggests that if periodic examinations will prolong life, without adding to health and happiness, their value is questionable. Information on this line should come from an impersonal and disinterested source, such as a medical society or a health officer not engaged in practice.

A periodic health audit, to be of value, must be much more thorough than an examination to detect the nature of fairly obvious disease and must go deeply into the personal habits, mode of living and hereditary tendencies of the patient examined. Because, in the incipiency of many maladies, the symptoms are solely subjective, the psychic factor is of great importance. This is one reason why these examinations should be made by the family physician, who understands the personality of the examinee, rather than by a representative of a commercial institution, operating for profit.

Sound judgment is required in deciding how much to tell the patient regardng the results of such an examination and in advising him as to salutary changes in his mode of life. Such a study can not be made for $4 or $5. The price should be in proportion to the service actually rendered.

Dr. Harris sums up his ideas along this line as follows:

1.—Whenever possible the family physician, who is familiar with the collateral facts relating to the patient, is the one who should make the health audit.

2.—The one who makes the examination is the one most competent to give advice to the patient.

3.—The physician should be most judicious in what he communicates to the patient concerning his findings, lest he do more harm than good.

4.—The chief purpose of these examinations is to add to the health of the examined.

5.—The great advantage of the examination is the opportunity afforded the physician to educate the people in correct methods of living.

6.—It has not yet been definitely established that periodic health examinations promote longevity and add to the happiness of mankind. The subject must still be considered in the experimental stage.

Self Selection of Food by Weaned Infants

In *Am. J. Dis. Child.*, Oct., 1928, Dr. Clara M. Davis, Chicago, describes an experimental study in which 3 newly weaned infants were allowed to choose their own food from a fairly wide range of commonly used natural food materials, unmixed, unseasoned and unaltered, except in the case of some by cooking in the simplest manner. With two of the infants the diet experiments lasted 6 months and in the third for 12 months; they were carried out in the wards of the Mount Sinai Hospital, Cleveland.

The experiments proved that support is not given to the prevailing belief that the infant of this age cannot, because of his age, digest or use any of the simple natural foods of adult life, or that glands or muscle cuts of meat, which have been shown to be especially valuable proteins in the variety and combinations of their amino-acids, should be excluded from their diet.

From the standpoint of digestion and so far as could be judged, the diet selected by the infants was optimal, since in only one, and then only in the presence of an acute infection, was there any deviation from digestive conditions that at the present time are generally considered to be satisfactory.

From the standpoint of nutrition, conclusions as to the success of the self-selected diet for these

infants are not warranted from a continuance of it for periods of only 6 months (two infants) and twelve months (one infant). The immediate results appear to be equal at least to the best results obtained by commonly prescribed diets, in growth, weight, bone development, musculature, general vigor and appearance of health and well-being.

The infants were omniverous and in eating were governed, not only by their caloric needs, but showed definite preferences which, however, changed from time to time and were unpredictable.

Seat of Action of Thyroid and Pituitary

R. C. Moehlig, in *Annals of Internal Medicine* for December, 1927, and February, 1928, presents a study of the selective action of the thyroid and pituitary on the various tissues of the body. He finds that the predominant action of thyroid is on tissues and organs of ectodermal origin while that of the pituitary is upon those derived from the mesenchyme.

In the case of the thyroid, he presents evidence, from hypothyroid and hyperthyroid types, showing that the symptoms are referable to the following tissues, each one of which is of ectodermal origin:

1. Skin, hair, nails.
2. Sebaceous and sudorific glands.
3. Mammary gland.
4. Eye.
5. Auditory organs.
6. Central nervous system.
7. Sympathetic nervous system.
8. Suprarenal medulla.
9. Olfactory organ.
10. Enamel of teeth.
11. Pituitary gland.

In the case of the pituitary he finds that this gland exercises no less striking control over the tissues of mesenchymal origin. Study of hypo- and hyperpituitarism shows the symptoms are chiefly referable to those tissues arising from the mesenchyme.

1. Connective tissue.
   (a) Bone.
   (b) Cartillage.
   (c) Dentin and cementin of teeth.
2. Lymph glands.
3. Spleen.
4. Blood vessels.
5. Blood.
6. Fat cells.
7. Smooth muscle.
8. Renal cells.
9. Suprarenal cortex.

Ultraviolet Irradiation and Eye Diseases

In *Eye, Ear, Nose and Throat Monthly*, Oct., 1928, Dr. O. Graydon Hume, London, Eng., says that intensee ultraviolet irradiation of the lens may produce cataract.

As regards eye diseases, in herpes zoster of the eyelids irradiation, to the extent of moderate erythema, gave marked relief in 5 cases, with permanent disappearance of the disease.

In corneal ulcers the rays should be directed in the form of a narrow pencil and should strike the cornea tangentially, never penetrating into the interior of the eye. The infrared and light rays should be cut off and excluded. Treated in this way, ulcers are rapidly cleared away, leaving a fine, transparent but firm scar.

Ultraviolet irradiation is also effective in established interstitial keratitis and vernal catarrh, phlyctenular kerato-conjunctivitis and follicular conjunctivitis.

In trachoma, the consensus of opinion is that it is possible, by ultraviolet treatment, to cure 10 percent and improve 80 percent of the cases. The technic found best to answer the purpose by the author is to evert the lids and draw them together so as to cover and protect the cornea, exposing them at the distance of half a meter to the full force of the whole length of the spectrum of a mercury vapor lamp for from 15 to 20 minutes.

Several other disease conditions of the eyes are mentioned in which the author obtained favorable results with ultraviolet therapy.

Explosions of Anesthetizing Gases

Most of the gases used for producing anesthesia are subject to the risk of explosion. In an article in *Hosp. Progress*, Sept., 1928, C. H. Wardell states that this risk arises either from open flames, faulty electrical appliances and the like, or else from natural causes such as static sparks.

Static sparks may be caused in numerous ways, especially in a dry atmosphere. The remedy for static electricity is to increase the humidity of operating rooms and properly ground all apparatus. A relative humidity of 55 percent at 70 degrees F., provided gas cylinders and all other apparatus are properly grounded, should reduce the risk of explosion from static sparks to the lowest limit.

The risk from open flames, glowing wires of faulty electrical apparatus, and other sources of ignition are matters for precaution. All electric fittings in operating rooms should be frequently and regularly inspected.

Pituitary Disorders and Mental Disturbances

In *J.A.M.A.*, Sept. 29, 1928, Dr. Wm. C. Menninger, of Topeka, Kans., on the basis of a study of 42 cases, concludes that there is no uniformity of association of any particular mental picture with any type of pituitary disorder.

An unsatisfactory attempt to classify the mental reaction types under various pituitary groups disclosed: (1) a majority of cases of preadolescent hypopituitarism, showing some degree of retardation in intellectual development; (2) a majority of post-adolescent hypopituitary cases presenting the schizoid picture; (3) a predominance of the cyclothymic reaction in the late hyperpituitarism.

Such observations cannot be assumed to prove the relationship with any specific mental reaction type. However, there is an intimate

association between mental disorders and dyspituitarism in: (1) The concomitant development in children of pronounced pituitary disorder and mental retardation; (2) the concomitant onset and development of behavior disorder and the physical signs of dyspituitarism; and, (3) the subsequent development of mental changes directly dependent on the physical signs of dyspituitarism.

The Clinical Significance of Eosinophilia

The average number of eosinophiles in the blood of man is from 2 to 4 percent. Regarding a series of 5,500 general medical cases (which did not include scarlet fever, blood diseases or much skin disease), Dr. Irving H. Page, of New York, and associates, in *J. Lab. & Clin. Med.*, Sept., 1928, state that an eosinophilia of 5 percent or more occurred in 300 patients.

Of the 300 cases of eosinophilia, 10 percent occurred in parasitic infestation; 13 percent in rheumatic fever; 13 percent in chronic pulmonary diseases (not including tuberculosis); 10 percent in the chronic nephritis-general-arteriosclerotic group. In fully 40 percent the eosinophilia occurred in isolated cases of various conditions and had no diagnostic significance.

The authors suggest that eosinophilia may be a *part of the phenomenon of allergy.*

Reduction of Fractures Under Local Anesthesia

Dr. C. R. G. Forrester, Chicago, in *Am. J. Surg.*, Sept., 1928, refers to the employment of local anesthesia by Boehler, of the Unfallkrankenhause, Vienna, in the reduction of fractures and dislocations, whether simple or compound. This method has now been adopted by the author with satisfaction and many of his patients have not had to go to a hospital at all.

The advantages of local anesthesia over general anesthesia are obvious. The idea underlying Boehler's local anesthesia is that every fracture or dislocation produces its own hematoma and that this hematoma is the finest diffusing agent for a local anesthetic.

In fractures of the extremities, a 2-percent novocaine (procaine) solution is used; in pelvic fractures spinal analgesia with 1-percent novacaine is used.

No case of infection was seen in Boehler's clinic, nor has the author had any such complication since adopting his method.

Direct Ultraviolet Radiation of the Genitourinary Tract

An article by Dr. A. Bernay, Lyons, France, in *Brit. J. Actinotherapy*, Sept., 1928, describes a new apparatus which he has devised to bring ultraviolet irradiation direct to the genito-urinary organs (urethra, bladder, uterus).

The apparatus, which is called the ultraviolet vesical sound, has much the appearance of a cystoscope, but the terminal piece, set at an angle to the shaft, is slightly longer. The instrument consists of a straight part made of ebonite which contains the electric cord together with its connections and a sort of hollow tube set at an angle to this of 120 degrees. This is the burner and in its interior is placed a drop of mercury the vaporization of which, under the influence of the high-frequency current, generates the ultraviolet rays. The apparatus is introduced into the bladder like an ordinary cystoscope. It is then only necessary to turn on the current to start the radiation.

The ultraviolet sound is activated by a small, high-frequency transformer, so that the entire apparatus is portable and can be applied at the bedside when necessary. The methods of applying it to the urethra are described in detail.

Autopsies

Dr. Margaret Warwick, St. Paul, in *Am. J. Med. Sc.*, Oct., 1928, gives a number of cogent reasons why it is important that an autopsy should be performed in every case, so far as it is possible to do so.

The Department of Pathology of the University of Minnesota will perform an autopsy without charge for any physician or hospital. This results in a large number of autopsies, and in 1927 approximately 19 percent of all persons dying in Minneappolis had autopsies performed upon them, and the University Hospital obtained autopsies on 74 percent of its deaths. From 38 to 50 percent of the deaths in the St. Paul hospitals were autopsied. Altogether, in St. Paul and Minneapolis, in 1927, there were 1,350 autopsies.

The future of the autopsy is to be promoted by the education of the public through better autopsies performed by competent pathologists and with the findings reported back to those who are deeply concerned. Autopsies are of particular value to the development of medical science and in controlling and checking diagnosis, prognosis and therapeutics.

In the United States less than 1 percent of autopsies are obtained, but the number can be greatly increased by close cooperation between the hospital superintendent, the pathologist, the clinician and the undertaker.

Stomachal Vertigo

In *Monde Med.*, Sept. 1, 1928, Dr. P. Regaud states that the great majority of cases of stomachal vertigo are of labyrinthine origin, and due to the action of a digestive tract intoxication on the labyrinth.

In the case of a patient suffering habitually from vertigo, the physician should first direct his attention to the middle ear.

In general practice it is not necessary to have recourse to expensive and complicated instruments to determine if there is labyrinthine involvement in such cases. The hearing acuity can be tested, both as regards cranial conduction and aerial conduction, by means of an ordinary watch. Any patient under the age of 50 years, showing an abolition of osseous perception for the tickling of a watch, is suffering from hypoacouesthesia.

Disturbances of the vestibular apparatus can be verified, if present, both by the Romberg and Babinski-Weil tests, which can be made by any physician without any instrumentation. If the examination gives postive results it will be necessary to refer the patient for treatment by an otologist.

If Doctors Went on Strike

What would happen if, for any reason, doctors went on a strike? Can you imagine the havoc and destruction that would be created? Epidemics would reign, disease would spread, hospitals would close their doors, research laboratories would be closed. Billions of dollars would be lost by the cessation of the manufacture of drugs and chemicals, an industry primarily created by doctors. Training schools for nurses would be no more, vast armies of nurses would be thrown out of employment, public schools and public buildings would be closed, armies and navies would disappear. Travel would be suspended, death would be at every door and pandemonium would reign the world over.—DR. H. W. SALUS, Johnstown, Pa., in *Medical Comment*.

Should Meat be Chewed?

Meat which is too thoroughly masticated and macerated will be forced into the duodenum long before the acid gastric juices of the stomach have had time to prepare it for digestion. It is necessary for meat to remain in the stomach from 3 to 4 hours or longer in order to digest. Experiments have shown that the bolting of meat at meals does not cause digestive disturbances.—DR. W. E. FITCH, Bedford, Pa. (Author of "Diets therapy," etc.) in *Am. Med.*, Nov., 1928.

Free and Pay Clinics

The discussion on free and pay clinics at the second Annual Conference on Public Health, held at Chicago, March, 1928, is reported in the *Bull.* A.M.A., October, 1928. In the opening paper by E .H. Lewinski-Corwin, Ph.D., he defends the clinics because: (1) the great mass of the people, whether through improvidence or not, have not actually the money to pay for adequate private medical service in accordance with the standards of today; and (2) because society has the right and duty to provide for itself medical and health service in a manner best adapted to its needs and exigencies. The medical profession should provide an equitable soluton of the medical service question in the interest of society and to its own advantage. At present it evidently has not done so.

Dr. L. L. Bigelow considered that the indiscriminate charity of the free clinic is a hole in the dyke through which the waters of pauperization and socialism are entering. Paternalism will extend in other directions than medicine.

The real free clinic is a necessity, but the philanthropic ideas underlying the great extension of free clinics in the larger centers are being exploited by taking advantage of the doctor's charitable instinct and to his monetary loss.

The final end of blind, unthinking paternalism in medical service in the larger centers will be—state medicine for all the land and disappearance of a free medical profession.

Antirachitic Efficiency of Skyshine in Washington, D. C.

That ordinary window glass is deficient in its transmission of the ultraviolet constituent of the sun's radiation is known. This fact has been utilized in testing the antirachitic effect of indirect sunshine (skyshine) at Washington, D. C., by Capt. W. D. Fleming, M.R.C., U.S.A., and his results are published in *Mil. Surgeon*, Nov., 1928.

Two groups of rats, each fed the same diet deficient in vitamin D, were confined in cages exposed to light from the north sky for the same period. One group was confined under ordinary window glass, and the second group under glass permeable to ultraviolet rays (vitaglass).

Marked rickets developed in the rats confined under window glass. Normal bone calcification was produced in the group under vitaglass, which is attributed to the ultraviolet rays passing through the vitaglass. After 100 days of exposure, the vitaglass animals averaged 135 grams in weight while the window-glass animals averaged only 117 grams.

These results showed that light from a north sky, i.e., indirect sunlight or skyshine, suffices to protect from rickets.

New Tests for Pregnancy

An editorial in the *Lancet*, (London) Oct., 1928, refers to the new tests for pregnancy described by Siddall and by Zondek, which depend upon the presence of ovarian and anterior pituitary hormones in the blood and urine.

Siddall's test depends upon the presence of ovarian hormone in the blood of the woman to be tested. Here serum is injected daily in doses of 1 cc. into an immature virgin mouse, for six days. On the sixth day the mouse is killed and weighed and the ratio of the weight of the whole mouse to the combined weight of the uterus and ovaries is estimated. If the ratio is less than 400 to 1 the test is regarded as positive. The basis of this test is the demonstrated effect of the ovarian secretion in increasing the size of the uterus.

The Zondek test depends upon an assumed explosive production of anterior pituitary hormone at the commencement of pregnancy, which is quickly excreted in the urine. Of 197 specimens of urine from pregnant women, only 4 gave a negative test.

In 142 cases, in which the Siddall test was applied, only 9 were erroneous.

Both tests are valuable, especially in early pregnancy.

NEW BOOKS

McLester: Metabolism

OXFORD MONOGRAPHS ON DIAGNOSIS AND TREATMENT. *Edited by Henry A. Christian, M.D., Sc.D., LL.D., Hersey Professor of the Theory and Practice of Physic, Harvard University, and Physician-in-Chief, Peter Bent Brigham Hospital, Boston, Mass. Volume* 1. The Diagnosis and Treatment of Disorders of Metabolism. *By James S. McLester, M.D., Professor of Medicine at the University of Alabama, Birmingham, Alabama. New York: Oxford University Press.* 1928. *Price, complete series of* 10 *volumes* $100.00.

The *Oxford Monographs on Diagnosis and Treatment*, of which series this forms Vol. 1, have been prepared because it is believed that owing to the steady advance in clinical methods, due to medical investigations, there is a real need among those who practice medicine for comprehensive discussions of diagnosis and treatment by men competent to select what is best for practical help. This should prove a valuable series, and the fact that the volumes are arranged on the loose-leaf principle, so that new material can be added, from time to time, adds to their usefulness.

Dr. McLester's book contains 12 chapters, the first four of which deal with normal metabolism and its disturbances. In the succeeding chapters gout, obesity, diabetes mellitus, pentosuria, etc., are discussed. The general practitioner will derive much information regarding the application of newer knowledge to the clinical handling of the diseases dealt with, and such information is not too commonly possessed. To the younger clinicians, especially, the book should be valuable, as the importance of metabolic disorders is now being generally recognized. The methods suggested are conservative and rational and fads are avoided.

Neustaedter: Clinical Neurology

TEXTBOOK OF CLINICAL NEUROLOGY. *For Students and Practitioners. By M. Neustaedter, M.D., Ph.D., Visiting Neurologist, Central Neurological Hospital, Welfare Island; Formerly Lecturer in Neurology, University and Bellevue Hospital Medical College; etc. With an Introduction by Edward D. Fisher, M.D., Professor Emeritus of Neurology, University and Bellevue Hospital Medical College, New York. With* 228 *Illustrations, Some in Colors. Philadelphia: F. A. Davis Company.* 1929. *Price* $6.00.

This book has not been written primarily for the neurologist, but for the medical student and general practitioner, and is intended to give a working knowledge of the subject of neurology, in as concise, lucid and complete a manner as possible.

The author's manner of presenting the subject departs somewhat from the stereotyped methods. Symptoms or symptom-complexes are first given just as they appear in typical clinical cases, the pathognomonic characteristics being stressed; the condition is then differentiated from others with more or less similar symtomatology; etiology, pathology, etc. follow, with descriptions of clinical cases. In this way the clinical aspects of any disease are always kept in the foreground.

An aspect of the presentation that is of very distinct value is that the author's descriptions are based, to a large extent, upon his personal clinical experience, in hospital and private practice, during the past twenty years. A slavish following of tacitly accepted formal descriptions is not adopted, and conditions which have only an academic interest or are merely pathologic curiosities find but little mention.

The author pays particular attention to poliomyelitis and encephalitis.

There are seven parts: General introduction; spastic paralyses; flaccid paralyses; ataxias; trophic disorders; vasomotor disorders; and functional neuroses.

The illustrations, which are numerous, are mostly original and well suited to complete the text.

The book can be recommended to practitioners, as being sufficient to meet their needs in this line, and to students as an excellent introduction to an important subject.

Laird: Mind and Body

OUR MINDS AND THEIR BODIES. *By John Laird, Regius Professor of Moral Philosophy in the University of Aberdeen. London and New York: Oxford University Press.* 1925. *Price* $1.00.

Much has been said and written regarding the relationship between the mind and body, but many still have a rather hazy idea as to what that connection may be, some even declaring (rather ridiculously) that the mind is *secreted* by the brain.

Prof. Laird has attacked the problem boldly, with the statement that the mind and the body appear to be two distinct entities, with the mind so definitely in first place that the physical body may be considered as merely an instrument for its manifestation.

He begins with a statement of his thesis; gives the evidence which the various sciences bring to its support; follows with a presentation of the different hypotheses regarding the relations existing between mind and body; and

closes with a fascinating study of the metaphysical speculations on the subject.

A few quotations will give a sample of the author's flavor:

"The very tone and temper of the body, its vigilance and its poise are, in our belief, very largely an effect of the spirit."

"What we see may depend upon what we expect to see, quite as much as upon the stimulus."

"Our minds, despite our vacillations, are not, in our opinion, ghosts at all."

"The movement called 'behaviorism' is too wilful and dogmatic to be likely to keep its place among sober contentions."

"Emotion is primarily cerebral, not a secondary repercussion from the viscera."

This little volume of 120 pages is not high-school stuff, by any means; it needs and will well repay careful study.

Marshall: Human Progress

THE STORY OF HUMAN PROGRESS. *By Leon C. Marshall, Professor of Economics; Director of the Work in Economics and Business, The University of Chicago. New York: The Macmillan Company.* 1928. *Price* $3.50.

The author tells the story of man's progress from primeval times to the present day. The book seeks to give a coherent view of the main forces or factors involved when men begin living together in society, and the gradual evolution of the social spirit and the power to live together well.

The steps by which man gradually modified his physical and social environment are depicted, as well as the factors which have led inevitably to group and community action and the suppresion of individuality.

The book will be enjoyed as a popular exposition of man's struggle for progress and mastery, as well as illustrating the processes of social biology.

Evans: Spinal Anesthesia

SPINAL ANTHESIA. (*Subarachnoid Radicular Conduction Block*) *Principles & Technique. By Charles H. Evans, M.D., Clinical Assistant, N.Y. Post-Graduate Medical School & Hospital, Lying-In Hospital of the City of N. Y., etc. Introduction by W. Wayne Babcock, M.D., F.A.C.S. Foreword by Charles Gordon Heyd, M.D., F.A.C.S. Illustrated. New York: Paul B. Hoeber, Inc.* 1929. *Price* $5.50.

Throughout this monograph the author constantly stresses his conviction that success in spinal anesthesia depends upon the anesthetist, rather than upon the drug used or the technic of injection.

The great desideratum in any method of anesthesia is to effect in the patient a condition of insensibility to the surgical manipulations, while at the same time reducing any deleterious after-effects to a minimum. While it is generally conceded that spinal anesthesia is better qualified to fulfil these conditions than any of the ordinarily used methods, yet, in practice, the proper induction of spinal anesthesia calls for such a degree of knowledge and precise technical skill that surgeons, as a general rule, prefer to rely on the better known methods of inhalation general anesthesia.

Dr. Evans' book is intended to give precise instruction in all technics associated with spinal anesthesia. At the same time he points out that the actual injection and induction of anesthesia is only one part of the anesthetist's duty; he should know how to select the patients, what drug to use and how to fit the anesthesia to the particular patients.

The ten chapters which make up the book include the technics of induction in various regions, the drugs used, the phenomena of anesthesia, complications, preoperative and other procedures and failures, including accidents, fatal and otherwise.

Generally it is shown that, in actual practice, where spinal anesthesia is applied properly, it is safer in every way for the patient than any other method of anesthesia and more desirable from the point of view of the surgeon.

A book of this kind, founded upon extensive practical experience and containing all the latest practical knowledge of the details of spinal anesthesia, should go far to remove any prejudices existing against it in the minds of surgeons and, on account of its manifold advantages, open up a larger field for its applicability.

Hoad: The Medical Profession

THE PROFESSION OF MEDICINE. *By Hortense Hoad. (American Council of Education Vocational Monograph Series, No. 1, August, 1928). Ann Arbor, Mich.: University of Michigan, The Committee on Vocational Counsel and Placement. Sent gratis, on request, while supply lasts.*

The young man (or woman), who is considering the selection of a profession, is greatly assisted by a statement of what qualifications are required for success in the lines of endeavor under consideration, and the returns to be expected from pursuing them.

This booklet will be very helpful to any who may be planning to enter the medical profession, as it contains an estimate of the cost of a premedical and medical education, with a survey of the requirements; a discussion of the various professional fields and the distribution and remuneration of physicians; and other matters of practical value. There is a good list of books on the subject.

All who are interested in Medicine as a possible vocation will find this booklet useful.

Cheney: Stomach and Intestines

OXFORD MONOGRAPHS ON DIAGNOSIS AND TREATMENT. *Edited by Henry A. Christian, M.D., Sc.D., LL.D.* Volume II, The Diagnosis and Treatment of Diseases of the Stomach and Intestines. *By William Fitch Cheney, B.L., M.D., Clinical Professor of Medicine, Stanford University Medical School; etc. New York: Oxford University Press.* 1928. *Price, complete set of ten volumes,* $100.00.

This is volume II of the *Oxford Monographs on Diagnosis and Treatment.*

The author's main procedure, in attempting to reach a correct diagnosis of any disturbance

of the stomach or intestine, is, first to distinguish, so far as possible from the nature of the symptoms, whether the condition is a disturbance of function due to an organic lesion, or a disturbance of function due to disease elsewhere. All successful treatment must depend upon the correct solution of this question.

The consideration of the method by which the clinician seeks to distinguish one kind of disordered stomach from another, and of those by which he endeavors to remove the disorder and restore normal performance of function, is the subject of this book.

The text comprises two parts. In the first, dealing with the stomach, there are given groups of functional disorders due to different gastric or extra-gastric causes. In the second part, dealing with the intestines, there are 19 short chapters dealing also with five groups of functional disorders arising from various conditions.

The book is one for the experienced general practitioner and clinician and contains up-to-date information on the subject dealt with.

Christian: Diseases of the Heart

OXFORD MONOGRAPHS ON DIAGNOSIS AND TREATMENT. *Edited by Henry A. Christian, M.D., Sc.D., LL.D.* Volume III, The Diagnosis and Treatment of Diseases of the Heart. *By Henry A Christian, M.D., Sc.D., LL.D., Hersey Professor of the Theory and Practice of Physic Harvard University; Physician-in-Chief, Peter Bent Brigham Hospital, Boston, Mass. New York: Oxford University Press.* 1928. *Price, complete set of ten volumes,* $100.00.

The *Oxford Monographs on Diagnosis and Treatment* have been written in order to apply the most modern methods to common conditions.

The most conspicuous note in Dr. Christian's treatise is that of prognostic cheerfulness and hope for many conditions which the laity in general, and many physicians, regard as a warrant for sudden death. As the author remarks, heart disease of any kind is connoted with sudden death by the laity in general.

There are 15 chapters in the volume, which include the acute and chronic inflammatory diseases, valvular diseases, syphilis, angina, irregularities and heart conditions associated with disease elsewhere.

The whole subject is treated in an essentially clinical manner. One will be struck by the absence of electrocardiograms in arriving at diagnoses. Auscultation, observation and the history are chiefly depended upon for the diagnostic data.

The book is one that would be very suitable for the general practitioner who is looking for a good practical text on the diagnosis and treatment of diseases of the heart. It is, like the other volumes of the set, bound in loose-leaf form so that additions of newly acquired knowledge may be inserted from time to time.

Brooks: Angina Pectoris

ANGINA PECTORIS. *By Harlow Brooks, M.D., Emeritus Professor of Clinical Medicine, New York University, Visiting Physician, City Hospital, etc. New York and London. Harper & Brothers.* 1929. *Price* $2.50.

Angina Pectoris is likely to receive too little attention from the practising physician, or it is accepted as a fatal syndrome. The author has discussed the etiology, so far as it is known at the present time, and has given careful consideration to the pathology and pathologic physiology as developed from his observations. Symptomatology, including obscure types of the syndrome, differential diagnosis, especially between true and false angina, and detailed treatment are presented clearly and comprehensively.

Dr. Brooks assumes a new outlook for angina patients or those predisposed to it by reason of heredity or other etiologic factors. He advances the idea that angina may not be fatal or that, if treated in its early stages, the result may be regarded as an effective cure. It is possible, writes this authority, to so regulate the lives of those predisposed to this condition that they may escape it.

The author of this volume writes from personal experience in New York's largest hospitals. The book is not a review of the literature already published but is a thorough study of the subject from the consulting physician's viewpoint. Dr. Brooks lays particular stress on the treatments which should be given in these cases and under certain conditions.

This is one of a series which should be of great value to physicians who now find it difficult to keep abreast of the latest developments because of the size and complexity of the literature, and the expensiveness and bulk of the average medical book.

Haldane & Huxley: Animal Biology

ANIMAL BIOLOGY. *By J. B. S. Haldane and Julian Huxley. New York: Oxford University Press.* 1927. *Price* $2.50.

This is one of the Clarendon series of scientific readers for use during the period of general education or for those who are taking up a course of scientific study without any previous scientific reading. The book is an elementary introduction to biology and evolution, suitable as a school reader to supplement elementary class and laboratory textbooks.

International Conference on Cancer, 1928

REPORT OF THE INTERNATIONAL CONFERENCE ON CANCER, London, 17th-20th July, 1928. *Held under the auspices of the British Empire Cancer Campaign. New York: William Wood and Company.* 1928. *Price* $12.00.

This is the report of the first International Conference on Cancer held under the auspices of the British Empire Cancer Campaign. Sixteen countries were represented by delegates, in addition to those representing the various parts of the empire. There were 25 representatives from the United States.

The etiology, pathology, diagnosis, treatment and sociology of cancer were dealt with and the various papers read on these subjects form the body of this report. No discussions on these papers are published.

The section on the chemotherapy of cancer will be found especially interesting, and one

gathers that this mode of therapy is likely to play a more extensive part in the near future.

The book will be of very special interest to all those who are actively associated with any phase of the cancer question, as it presents a fair picture of the aspects of cancer in various parts of the world and what is being done about it. From the general practitioner's point of view, apart from the fact that the subject is one of deep interest, there appears to be little of practical clinical value, at least little that is new.

The book is one that should be available for reference in every medical library.

Abderhalden: Biologic Methods

HANDBUCH DER BIOLOGISCHEN ARBEITSMETHODEN. *Geh. Med.-Rat. Prof. Dr. Emil Abderhalden. Abt. V, Methoden zum Studium der Funktionen der einzelnen Organe des tierischen Organismus, Teil 5 A, Heft 5 (Lieferung 285), and Teil 9, Heft 2 (Lieferung 286). Berlin and Wien: Urban & Schwarzenberg. 1929. Price, Lfg. 285, Mk. 10.; Lfg. 286, Mk. 9.*

Part 2, Sect. 9, of Vol. 5 of Abderhalden's "*Handbuch der biologischen Arbeitsmethoden*" contains monographs by Lepehne and Horsters on the investigation of defective liver functioning.

Part 5, of Sect. 5A comprises a monograph on chronaxia by Laugier, one by Spiegel on tonus-measuring and one by Kochmann on the methods of investigatng smooth muscle organs.

International Clinics

INTERNATIONAL CLINICS. *A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles by Leading Members of the Medical Profession Throughout the World. Volume I. Thirty-ninth Series, 1929. Philadelphia and London: J. B. Lippincott Company. Price $3.00 per volume; $12.00 per year.*

The first quarterly volume of the *International Clinics* for 1929 contains a number of excellent papers. Professor L. F. Barker opens with three clinics; arterial hypertension, headaches and chronic alcoholism.

Dr. F. d'Herelle contributes a paper on the bacteriophage. Other excellent clinical papers are those by Dr. S. Flexner on poliomyelitis; by Dr. C. F. Craig on amebic infections; by Dr. S. Jellinek of Vienna, on electro-pathology; and by Dr. A. P. C. Ashhurst on vascular surgery.

These volumes form a good postgraduate course of instruction in the latest developments in medicine and surgery.

Jackson: Nerves

OUTWITTING OUR NERVES. *A Primer of Psychotherapy. By Josephine A. Jackson, M.D., and Helen M. Salisbury. New York: The Century Co. 1921. Price, cloth $2.50; leather, $3.00.*

Here is a practical book dealing with the neuroses and how to prevent and cure them. The cause of these distressing disorders is frankly stated to be a mental conflict of some sort; and the remedy, a solution of the conflict and psychic reeducation of the patient.

Dr. Jackson is a follower of Freud, but not such a rabid one that she believes psychoanalysis to be sole means of treating neurotics. In fact she frankly states, "If the dead past can be let alone, so much the better." She gives some details of the Freudian method, and also of the process of "reeducation without subconscious exploration." The chapters on psychic fatigue and insomnia are especially interesting.

A worth-while book for general practitioners, for their own study and to give to their more intelligent neurotic patients.

Lindsey: Evolution and Genetics

TEXTBOOK OF EVOLUTION AND GENETICS. *By Arthur Ward Lindsey, Professor of Zoology in Denison University. New York: The Macmilllan Company. 1929. Price $3.00.*

In this volume the author attempts, first, to present the materials of evolution in such a way that their true logical relationship is clear to the student; second, to give a concise account of the fundamental principles of genetics: and, finally, to sum up the theoretical matter of the subject and to present a logical analysis of the factors bearing upon evolutionary theory.

The book has been written for students who desire a sound introduction to the subject, not merely such an elementary account as is given in most textbooks of biology.

The first part of the work deals with the relationships of organisms; the second part with the process of evolution, including genetics and the theories of evolution. In regard to the latter, our knowledge is not yet sufficient to explain all the facts of variation. As the author states, we are able to see variation as a process only in the individual, and it remains to be explained how these changes become a part of the species.

Practical Medicine Series 1928: Pediatrics

THE PRACTICAL MEDICINE SERIES. *Comprising Eight Volumes on the Year's Progress in Medicine and Surgery. Pediatrics. Edited by Isaac A. Abt, M.D., Professor of Pediatrics, Northwestern University Medical School. Attending Physician St. Luke's Hospital, Chicago, Children's Department. With the Collaboration of Arthur F. Abt, M.D., Assistant in Pediatrics, Northwestern University Medical School, etc. Series 1928. Chicago: The Year Book Publishers, 304 So. Dearborn St. Price $2.25.*

This year-book covers all important contributions to pediatric literature for the year 1928. The matter is arranged, in the form of abstracts, in chapters or sections devoted to the several subdivisions of the specialty.

The abstracts are very full where necessary and the editorial comments of the experienced editor are valuable. Such a summary of the literature is almost indispensable to the specialist who has not the time to read the various journals and must keep himself abreast of what is going on at home and abroad, and is of value to general practitioners.

Abderhalden: Biologic Technic

HANDBUCH DER BIOLOGISCHEN ARBEITSMETHODEN. *Geh. Med.-Rat Prof. Dr. Emil Abderhalden. Lfg. 280, Abt. IV, Angewandte chemische und physikalische Methoden, Teil 6, 2. Hälfte, Heft 4. Lfg. 282, Abt. V, Methoden zum Studium der Funktionen der einzelnen Organe des tierischen Organismus, Teil 9, Heft 1, Heinrich Gerhartz-Bonn: Belastungsproben der Atmung; Belastungsproben des Kreislaufes.* 1928. *Price, Lfg. 280, Mk. 6; Lfg. 282, Mk. 10.*

Lieferung 280 (Vol. IV) of the above series contains four short articles: Investigation of the gall-bladder contents, by Saidman, of Warsaw; Methods of artificial feeding, by Chrometzka, of Kiel; Roentgen investigation of the gastro-intestinal tract, by David, of Frankfurt am Main; and Investigation on rumination, by Mangold, of Berlin.

Lieferung 282 (Vol. V) is devoted to the investigation of factors concerned in defective respiration and circulation, including atmospheric contaminations.

Klemperer & Klemperer: Neue Deutsche Klinik

NEUE DEUTSCHE KLINIK. *Handwörterbuch der praktischen Medizin mit besonderer Berücksichtigung der inneren Medizin, der Kinderheilkunde und ihrer Grenzgebiete. Herausgegeben von Prof. Dr. Georg Klemperer und Prof. Dr. Felix Klemperer. Zweiter Band. Bandwürmer—Dyspnoe. Mit 272 bildlichen Darstellungen im Text und auf 9 farbigen und 2 schwarzen Tafeln. Berlin and Wien: Urban & Schwarzenberg.* 1928. *Price Mk. 33; Mk. 40.*

This is the second volume of the encyclopedic compendium of medical practice issued under the title of the Neue Deutsche Klinik and covers the subjects from Band to Dysp.

There are nearly 800 pages; the descriptions are full and the illustrations copious. For those who read German this series provides a very complete exposition of the present day practice of medicine in Germany. The book is excellently printed and bound.

Singer: Diabetes

DIE REIZKÖRPERBEHANDLUNG DES DIABETES. *Von Prof. Dr. Gustav Singer, Hofrat, Primärarzt der Krankenanstalt "Rudolfstiftung", Wien. Mit 38 Abbildungen im Text und zwei farbigen Tafeln. Berlin and Wien: Urban & Schwarzenberg.* 1929. *Price geh. Mk. 15; geb. Mk. 17.40.*

On the basis that diabetes is originally a disease due to metabolic disturbance—probably of the nature of intolerance to certain proteins in the diet—Singer suggests a non-specific treatment. The idea is to stimulate the system in general to build up a carbohydrate tolerance. The non-specific treatment acts as an immunization process for such patients.

This monograph shows a vast amount of research on the origin and effects of diabetes and physicians who read German will find it very interesting.

Starkenstein, Rost & Pohl: Toxicology

TOXIKOLOGIE. *Ein Lehrbuch für Ärzte, Medizinalbeamte und Medizinstudierende. Von Dr. E. Starkenstein, Dr. E. Rost und Dr. J. Pohl. Mit 34 Abbildungen im Text und 26 meist mehrfarbigen Tafeln. Berlin & Wien: Urban & Schwarzenberg.* 1929. *Price Mk. 26.50.*

Probably no branch of pharmacology is of more importance in the therapeutic use of medicinal substances than is toxicology. Since nearly all drugs, when used in excessive amounts, can be classed as poisons, information as to when a drug may produce toxic symptoms is greatly needed. The present book supplies this information in an excellent and systematic manner. The first chapters take up the relation between poisoning and illness, and the conditions, prophylaxis and therapy of cases of poisoning. The later chapters deal in detail with the toxicology of the individual members of various classes of compounds. The book should prove invaluable for reference purposes to those who read German.

E. H. V.

Miller: Hemorrhoids

THE INJECTION TREATMENT OF HEMORRHOIDS. *By Dr. Charles Conrad Miller. Chicago: Modern Surgery Publications. (Distributed by Login Brothers, 1815 W. Harrison St., Chicago).* 1929. *Price* $2.25.

Those practitioners who favor the injection method of treating hemorrhoids will find Dr. Miller's little book a very fair exposition of the whole subject. The author draws freely from the literature quoting copiously the opinions of those who favor this method of treating piles as well as of those who make objections to it.

The various injection fluids favored by different operations and their history and results are given.

The technic of making injections is given in detail with illustrations when necessary.

The book includes also the injection treatment of varicosities of the leg.

Altogether we consider this is a very practical little book on a subject which is well within the scope of every general practitioner and with which he should be acquainted.

MEDICAL NEWS

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Anti-Kissing Campaign

The Newark, N. J., Health Department, in an attempt to prevent the spread of contagious diseases, has distributed bibs to children stamped with the following warning: "I Don't Want to be Sick—Do Not Kiss Me." One such bib is sent out by the city with each new birth certificate, and health officials hope that the bibs will help educate mothers against the hazards of kissing and the consequent spread of disease.

A Job in Chicago

There is an interesting opening for a young man who desires to establish himself in Chicago. A group of physicians need a part-time assistant for general work. The income from this position alone would not be a living, but there would be ample time to develop a private practice. If interested, write to Dr. Ralph Kuhns, 122 S. Michigan Ave., Chicago.

Western Physical Therapy Associations

The eleventh annual session of the Western School of Physical Therapy will be held in Los Angeles, Calif., June 17 to 20, 1929, and will be immediately followed by the annual meeting of the Pacific Physiotherapy Association.

Full information may be had from Dr. Chas. W. Fassett, Hotel Glendale, Glendale, Calif.

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Prof. Hans Virchow

Prof. Hans Virchow, son of the famous pathologist, the late Rudolph Virchow, recently celebrated his seventy-fifth birthday in full health and vigor of mind and body. He has achieved distinction in the same line of work pursued by his noted father.

International Homeopathic Visitation

The American Institute of Homeopathy will hold its annual meeting at Montreal, Canada, June 23 to 27, 1929, and immediately thereafter (June 27) a delegation will sail for a tour of the clinical centers of Europe, visiting London, The Hague, Frankfort, Berlin, Vienna, Geneva, Paris and other cities, where meetings and clinics will be held. Supplementary trips to Italy, Spain, Scandinavia and Russia have been

arranged. The party is to arrive back in New York August 4.

The cost of the trip including all necessary expenses will be from $545 to $1,000, according to accommodations on ship-board.

For full information, address En Route Service, Inc., Hotel Plaza, New York, N.Y.

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Walking the Plank

Maj. von Gruber, a German Army medical officer, has invented a device for strengthening the intrinsic muscles of the feet, which is especially useful in the treatment of children whose feet are weak. The patient is required to walk up and down the staircase-like device, barefoot, several times a day.

United States Civil Service Examinations

The United States Civil Service Commission announces the following open competitive examinations:

Associate Medical Officer.

Assistant Medical Officer.

Applications for associate and assistant medical officer must be on file with the Civil Service Commission at Washington, D. C., not later than June 29.

The examinations are to fill vacancies in hospitals of the Public Health Service, the Indian Service, and in other establishments of the Federal classified service throughout the United States.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or from the secretary of the United States Civil Service Board of Examiners at the post office or custom-house in any city.

Opening in Illinois

It is reported that an active physician is greatly needed at Barrington, Ill., a thriving town of 4,000 population, 35 miles from Chicago. The two doctors now practicing there are overworked and will welcome a fellow practitioner.

If interested, write to Dr. R. L. Mundhenk, Barrington, Ill.

Death of Professor J. A. Sicard, of Paris

Professor J. A. Sicard, of Paris, well known as the originator of the lipiodol injection diagnostic method, and in connection with the injection of alcohol for neuralgia and the injection treatment of varicose veins, died suddenly from angina pectoris, Jan. 28, 1929, in his fifty-seventh year.

Freedom

Those who believe that the Eighteenth Amendment and the Volstead law are contrary to public policy and the spirit of this nation will be glad to know that a monthly magazine militantly endorsing this attitude has now come into being. The name of the journal is *Freedom;* the address, 100 Wall St., New York City; the subscription price, $2.00 a year.

Pictures of Africa

Mr. Will J. Cameron, Ph.G., who is well known to members of the medical profession, and who recently, with Professor Cadle, made an expedition into the Kalkhari Desert, in South Africa, gave a preliminary showing, on Feb. 15, 1929, of 5,000 feet of the remarkable moving picture film made in the country of the Bushmen.

Send For This Literature

To assist doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physicians' supplies, foods, etc., CLINICAL MEDICINE AND SURGERY, North Chicago Ill., will gladly forward request for such catalogues, booklets, reprints, etc, as are listed from month to month in this department. Some of the material now avaiable in printed form is shown below, each piece being given a key number. For convenience in ordering, our readers may use these numbers and simply send requests to this magazine. Our aim is to recommend only current literature which meets the standards of this paper as to reliability and adaptability for physicians' use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment or medical supplies. Make use of this department.

P- 2 Your Prestige and Profit. 8-page booklet. The Carroll Dunham Smith Pharmacal Co.

P- 3 Storm Binder and Abdominal Supporter, 4-page folder by Dr. Katherine L. Storm.

P- 5 Ethical Medicinal Specialties. 8-page booklet. A. H. Robins Co.

P- 7 The Cure of Cystitis, Pyelitis and other Inflammatory Conditions of the Urinary Tract. Chicago Pharmacal Co.

P- 17 An Index of Treatment. Burnham Soluble Iodine Co.

P- 20 A Survey of Focal Infection. Fellows Medical Co.

P- 45 Vera-Perles of Sandelwood Comp. Paul Plessner Co.

P- 47 Campho-Phenique in Major and Minor Surgery. Campho-Phenique Company.

P- 49 The Calcreose Detail Man. Maltbie Chemical Co.

P- 50 Outwitting Constipation. Standard Oil Co.

P- 56 Regaining Health. How Science Can Guide You! The Fleischmann Company.

P- 58 The Pharmacology of Cod Liver Oil, Smith, Kline & French Co.

P- 67 The Electro-Pathology of Local Inflammation. The Dionol Company.

P- 85 Ultraviolet for Health. Hanovia Chem. & Mfg. Co.

P- 93 Light Therapy. Britesun, Inc.

P- 95 Everything for the Sick. Lindsay Laboratories.

P-103 The Electron, March, 1929, McIntosh Electrical Corporation.

P-112 Atophan after more than Fifteen Years of ever expanding use, etc. Schering & Glatz.

P-113 Forcep Deliveries and Versions. Battle & Co.

P-116 Hemo-Glycogen, The New Product Hemoglobin Compound and Liver Extract. Chappel Bros., Inc.

P-120 Building Resistance. William R. Warner & Co., Ltd.

P-139 How to Save Children from Goiter. Morton Salt Company.

P-156 Siomine (Methenamine Tetraiodide). Pitman-Moore Company.

P-169 The Quartz Lamp, Apr. 15, 1929. Hanovia Chemical & Mfg. Co.

P-176 The Hormone, March — 24 pages and cover, published bimonthly. The Harrower Laboratory.

P-189 High Blood Pressure — Treatment with Theocalcin. E. Bilhuber, Inc.

P-194 Fracture Book — 1928 Edition. DePuy Mfg. Co.

P-196 "Facts Worth Knowing." Intravenous Products Co. of America, Inc.

P-197 Bulletin. Illinois Post Graduate Medical School, Inc.

P-198 Portfolio of Letters in Evidence from Physicians. Philo Burt Co.

P-199 Activin in Non Specific Protein Therapy. Ernst Bischoff Co.

P-204 News and Views from French Lick. French Lick Springs Hotel.

P-211 The Etiology and Treatment of Hay Fever — Hay Fever Antigens. The National Drug Co.

P-218 Eupinol. A distillate produced at a special temperature from the resinous wood of Pinus Palutris. The Tilden Company.

P-222 Autumn Leaves — Guiatonic. Wm. R. Warner & Co., Inc.

P-227 The Romance of Digitalis. The Hoffmann-La Roche Chemical Works, Inc.

P-228 Ye Olden Day Cough Physic. The Tale of a Drug which Columbus gave to Isabella. The Hoffmann-La Roche Chemical Works, Inc.

P-230 Thiate, Merrell. Wm. S. Merrell Company.

P-231 The Action and Use of Castor Oil. The Wm. S. Merrell Company.

P-232 Pectoral Balsam Merrell. Wm. S. Merrell Company.

P-233 Gland Tidings. G. W. Carnrick Co.

P-235 A Real Problem Solved (Clinical Medicine). The Health Cigar Co.

P-236 Throughout the Span. Advanced Age. William R. Warner & Co., Ltd.

P-237 Bedtime Nourishment. Mellin's Food Co.

P-239 Battle Creek Solar Arc Lamp. Sanitarium Equipment Company.

P-242 Announcing a New Preparation, Stronsalin (Keysall). Keysall Pharmacal Company.

P-243 Nichols Nasal Syphon. Negative Pressure. Nichols Nasal Syphon, Inc.

P-244 I Am Oxiphen! Pitman-Moore Co.

P-247 Colitis, A Common and Increasing American Disease. The Battle Creek Food Company.

P-249 Diathermy in the Treatment of Pyorrhea and Other Oral Diseases. McIntosh Electrical Corporation.

P-250 Relieve that Pain with Infra Red Rays. McIntosh Electrical Corporation.

P-251 Nasal Dionol. The Dionol Company.

P-255 Mellin's Food Biscuits. Mellin's Food Co.

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P-258 Prophylaxis. August E. Drucker.

P-259 Diathermy — Definition, History, Application. Bleadon-Dun Co.

P-262 Journal of Intravenous Therapy, January, 1929, Loeser Laboratory.

P-266 "Baederkalender," a Scientific Reference Book on German Resorts, 600 pages. German Health Resorts.

P-267 Uncle Sam Health Food. Uncle Sam Breakfast Food Co.

P-268 Eat Uncle Sam Health Food. Uncle Sam Breakfast Food Co.

P-269 Special Course No. VI. Traumatic Surgery. Illinois Post Graduate School.

P-270 Pharmaceuticals of Established Merck & Co., Inc.

P-271 The Intestinal Flora. The Battle Creek Food Company.

P-274 Headache, Its Differentiation and Meaning. Battle & Co.

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P-279 Service-Suggestions, March-April, 1929. Victor X-Ray Corp.

P-281 Differential Diagnosis in Renal Diseases. Reed & Carnrick.

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